



TRACMASTER

The landscape machinery specialists

TRACMASTER HELP & HOW-TO GUIDES



How to Care for Your Lawn

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How to Care for Your Lawn



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Seasonal Lawn Care

Keep your lawn in top condition throughout the year with our easy-to-follow seasonal guide.



Spring is the best time of year to repair any damage to your lawn that may have been caused by pets, diseases, extreme weather, pests or mechanical damage.



During the summer months the hot, dry weather can be devastating to a lawn so the most important lawn care tasks are mowing, feeding, weeding and watering.



Autumn is the time to help a lawn recover from the wear and tear it will have endured during the summer. A little care now will promote healthy growth.



During the winter months the lawn will, as a rule, be dormant, so it may need a little help now to survive this period and be ready for the spring.

SPRING

Spring is generally regarded as the most important time of year for lawn care, as everything starts to warm up following the winter and the first signs of growth appear.

Spring is the best the time for preparing the lawn for the forthcoming summer season and by keeping on top of just a few straightforward tasks it's easy to ensure the lawn will be looking its best for summer.

The spring lawn care program should include:

- [Moss Removal & Control](#)
- [Aerating & Scarifying](#)
- [Overseeding & Repairs](#)
- [Mowing](#)
- [Feeding](#)



MOSS REMOVAL & CONTROL

Moss growing on lawns is not only unsightly, but often an indication that the conditions are not ideal for growing healthy grass. Therefore, it is best to not only remove the moss, but to understand why it is growing there in the first place. Once the cause is identified then the moss growth can be prevented from recurring.

Moss on lawns can be caused by several factors, including:

- Poor drainage
- Excessive shade
- Low soil pH
- Lack of necessary nutrients

Raking is the preferred method for moss removal. For smaller lawns a wire fan rake is adequate, but it's much quicker and more efficient with a dedicated lawn scarifier. For larger lawns a powered lawn rake or scarifier is the easiest method.

Moss spreads by producing spores. This usually happens during April and then again in September. It is therefore recommended that the moss is removed before it spores to prevent it spreading.



Moss can be unsightly on a lawn

It is important to bear in mind though that when performing any 'invasive' treatment to the lawn, it needs to be able to recover and repair itself in as short a time as possible afterwards. If it doesn't then the result may be a weed problem in place of the moss problem. For the lawn to recover quickly it needs warmth, fertiliser and moisture.

This is why it's best to remove the moss in April (before it spores) to allow the warmer spring temperatures and April showers to work their magic and revive the lawn. In addition, it will be the ideal time for fertiliser to be applied afterwards.

The most effective way of ensuring that the moss is eradicated is to first rake out the moss that's visible. This won't get all of it so the next step is to apply an iron sulphate based moss killer to the area. This will penetrate the thinned layer of moss so that after a week or two the remainder can be successfully raked out.

This method can be more effective than simply raking because if the moss is still alive when it's raked then it can spread to other parts of the lawn causing an even bigger problem. Also, by raking first and then applying the moss killer, the moss has been thinned out so the killer can penetrate more effectively thus producing much better results.

If the moss problem is very bad then applying a moss killer both before and after raking may be beneficial. However, allow several weeks between the treatments and make the applications in cool wet conditions where possible otherwise the grass will start to blacken. In addition, ensure the moss killer has a low fertiliser (nitrogen) content as there is the possibility that a double application may cause growth or disease problems. A straight iron sulphate-based moss killer would be the preferred choice in this instance.

AERATING & SCARIFYING

Lawn Aeration

Lawn aeration is the process of making holes in a lawn in order to increase the amount of air in the soil. Aeration is vital to the health of a lawn as without air, the lawn and soil suffer from compaction and as a result the grass has difficulty surviving and becomes weak, allowing weeds, moss and diseases to take hold.

There are two main types of lawn aeration – hollow tine aeration or coring, and solid tine aeration. The [CAMON LA25 Lawn Aerator](#) has both types of tine allowing for both hollow and solid tine aeration.



A hollow tine aerator removes plugs

Hollow tine aeration

This removes cores or plugs from the lawn and is ideal for lawns with a heavy clay content as it allows for a suitable top dressing to be applied into the holes. Before hollow tine aerating it is best to cut the lawn a little shorter than normal to make the aeration process easier.

Solid tine aeration

This is the most frequently performed type of aeration and does not remove any soil from the lawn, it simply makes a hole in the ground to relieve soil compaction and let air reach the rootzone.



Solid tine aeration spikes the ground

Lawn Scarifying

Lawn scarifying is the process of removing thatch, moss and other organic matter from a lawn by mechanical means. Scarifying is a vital part of the lawn care program as it not only removes moss, but also prevents and controls the build-up of thatch, and can be used to prepare the lawn prior to overseeding.

It's important before scarifying to check that the ground conditions are suitable. If the ground is too wet it will reduce the effectiveness of the operation, likewise, it's not recommended if the ground is bone dry.

Ensure that the scarifier is set at the correct depth to be able to effectively remove moss. If thatch is also to be removed then it may be necessary to set the depth a little lower. Test the machine first on a small area to make sure the settings are correct.

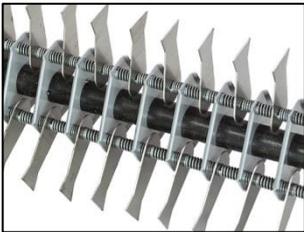
After scarifying, any debris that hasn't been collected needs to be removed, however, it can be left to dry a little before clearing to make this easier. After this, the lawn can be given another cut and, if necessary, overseeded.



The moss and thatch being removed

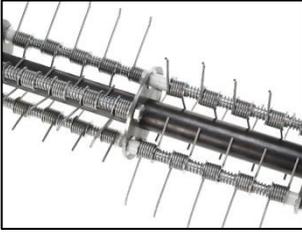
The [CAMON range](#) offers machines for four different types of scarification – standard scarification, lawn rake scarification, lawn slitting, and lawn renovation.

In addition, all the [CAMON Lawn Scarifiers](#) have the option of a large collection bag so it's not necessary to collect the debris afterwards.



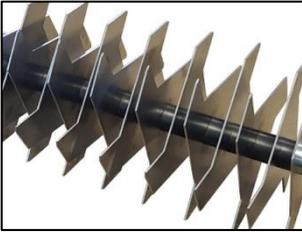
Standard Scarification

Remove moss and thatch with the standard [Free-Swinging Blade](#) scarifier. A “waisted” blade design coupled with a staggered blade layout ensures maximum efficiency and unbeatable performance.



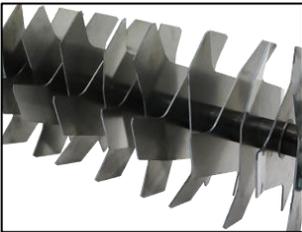
Lawn Rake Scarification

For all year-round scarifying, the [Spring Rake](#) is a great option. The rake features heavy duty springs that rake out thatch and “manicure” the lawn. This is a less aggressive method but needs to be undertaken more frequently.



Lawn Slitting

For lawns where overseeding is required, the [Fixed Blade](#) cartridge is the best option. This rotor has 2mm thick fixed blades that slit the ground while scarifying. This allows for overseeding and improves drainage.



Lawn Renovation

Where the existing lawn needs to be completely renewed we have created the [Renovation Cartridge](#). Each of the blades has three tips - one straight, one angled to the left, and one to the right to provide maximum coverage and help to rip out the old grass.

OVERSEEDING & REPAIRS

Lawns suffer during the winter months so overseeding will rejuvenate a tired looking lawn and return it to its former glory. Overseeding will increase the density of the grass and improve its appearance.

Many professionals favour autumn over the spring for overseeding as the results are better and more consistent. This is mainly due to the soil being warmer in the autumn and so helping with germination. However, if the lawn is in bad shape after the winter then it's advantageous to give it a head start and speed up recovery by overseeding in spring.

Regardless of the season though, there are some points to consider when overseeding.

Before overseeding, mow the lawn a little shorter than usual to help the grass seed reach the holes made by slitting or aerating.



Lawn with slits ready for overseeding

Check the recommendations for the particular seed being used, but as a general rule, overseed at a rate of approximately 10-25g per square metre.

If the lawn has just a few bare spots then simply overseed these, however, if the whole area has suffered, or different grass species are to be introduced, then it's recommended to overseed the entire area.

Following the overseeding, a layer of top dressing can be applied to help protect the seed and retain moisture. It is important to ensure that both the seed and the top dressing are worked into the grass so they make contact with the soil and rootzone.

The soil needs to be kept moist but not saturated. Regular, light watering should suffice. Until the seed has become established traffic on the lawn should be kept to an absolute minimum. For the first cut following overseeding, it's recommended that the mower cutting height is raised so as not to damage the new grass.

MOWING

It may sound obvious, but mowing is one of the most important jobs in the lawn care program. Cutting grass encourages thicker growth and deters flowering and seeding of weeds so it's a job worth doing regularly.



As a guide, during March the lawn should be cut every 2 weeks. This should be increased to every 10 days in April and then at least once a week during the summer. In the autumn reduce the frequency back to 10 days and then during the winter (unless the weather is particularly mild) it's not advisable to mow the lawn at all.

It's important to make sure that the mower blades are sharp as blunt blades can do more harm than good – instead of giving a clean cut they can tear the grass causing weaknesses which can result in disease. It's worth having lawnmower blades sharpened at the end of every season.

Never cut the grass too short. It should never be cut more than a third of its own height. Ideally, the grass needs to be long enough to stay healthy but short enough for the lawn to be aesthetically pleasing. The optimum height for a multi-purpose lawn is around 2½-3cm (approximately 1").

FEEDING

Even lawns need feeding. A regular feed with a suitable lawn fertiliser will do wonders for a lawn; the grass will be greener, thicker and healthier and will grow more vigorously.

A well-fed lawn, ie one that gets the correct nutrition, will be able to withstand most common problems and be strong enough to suppress the growth of weeds and moss.

A good spring season lawn fertiliser should contain 3 key nutrients – nitrogen, phosphorous, and potassium. Each of these nutrients has a specific benefit for the grass.

Nitrogen (N) is the most important nutrient as it encourages strong consistent growth and gives the grass its deep green colour. Nitrogen should be applied regularly during the spring and summer when the grass is growing. It should not however be applied during the autumn and winter as it can encourage disease.

Phosphorous (P) encourages earlier growth during the spring and a healthy rootzone. It also helps the grass to withstand stressful conditions such as drought.

Potassium (K) whilst not as important as the other two nutrients, helps to harden the grass and develop resistance against disease and stressful conditions.

During the spring it's recommended that the fertiliser is applied after scarification and aeration has taken place.

A granular feed tends to perform best at this time of year as the ground is cold, however it is very important that the feed is applied evenly and at the correct rate to avoid damaging the lawn. The feed can be applied by hand, but a fertiliser spreader will ensure an even application – if incorrectly applied the fertiliser can burn or kill the grass.

It is vital that the fertiliser is thoroughly watered in after application.



SUMMER

As summer arrives, lawns will tend to receive more traffic than at other times of the year. This, coupled with persistent hot and dry conditions, can mean that for a lawn summer is the most stressful time of year.

After the spring lawn care program has been completed, the lawn should be healthy, strong and looking great. However, it's important to remember that the summer can very quickly have a detrimental effect on the condition of a lawn.

To maintain the lawn's good condition throughout the summer it's worth completing just a few simple tasks – it doesn't take a great deal of effort and the results will speak for themselves!

- [Mowing](#)
- [Feeding](#)
- [Watering](#)
- [Weed Control](#)



MOWING

During the summer months, the frequency at which the lawn should be cut should be increased to at least once a week.

As stated previously, it's vital to make sure that the mower blades are sharp as blunt blades can do more harm than good – instead of giving a clean cut they can tear the grass causing weaknesses which can result in disease. It's worth having lawnmower blades sharpened at the end of every season.



Also, never cut the grass too short. It should never be cut more than a third of its own height. Ideally, the grass needs to be long enough to stay healthy but short enough for the lawn to look good. The ideal height for a multi-purpose lawn is around 2½-3cm (approximately 1”).

If the weather is particularly dry then the rate at which the lawn grows will slow down. During a very dry spell it is advisable to reduce the amount of mowing and allow the grass to grow a bit longer.

If the grass is cut too short it will take a huge amount of energy to regrow and be susceptible to weeds.

FEEDING

The requirement to apply lawn feed will largely depend on the weather. However, as a guide, the warmer summer weather will generally encourage rapid growth and as a result, use more nutrients. In this instance the application of a lawn feed would be beneficial.

For smaller areas a liquid fertiliser is ideal. These are generally available ready mixed with a spray gun that attaches to a garden hose allowing for straightforward and quick operation and avoiding the need to water in afterwards. However, they can be more expensive than the granular fertiliser, which is why they are best suited to smaller lawns.

For larger lawns a granular feed is recommended, don't forget though that granular fertiliser must be applied evenly and at the correct rate to avoid damaging the lawn; it can be applied by hand, but a fertiliser spreader will ensure an even application – if incorrectly applied the fertiliser can burn or kill the grass. It is also vital that the fertiliser is thoroughly watered in after application.

WATERING

Summer will be the time of year when a drought is most likely to occur. During a drought, lawns can appear almost straw-like, becoming dry and discoloured.



If the lawn has been well maintained prior to the occurrence of the drought then it will normally recover once the rain returns. The ability of a lawn to withstand and recover from extreme weather such as drought is determined by how well maintained it is at other times of the year; aerating, scarifying, feeding, and weeding will give the lawn the strength it needs to survive a drought by ensuring a healthy rootzone.

That said, prevention is better than cure, and the only way to prevent drought is to water the lawn. Watering is best done at the first signs of drought, while the grass is still green but starting to show signs of stress such as minimal growth and a dulling of its normal green colour.

Watering produces the best results when done evenly. The general rule is either early morning or at dusk – never during the heat of the day. In addition, a really good soaking once or twice a week is far more beneficial than a light watering every day. A daily sprinkling can encourage shallow root growth resulting in the rootzone becoming exposed and drying out.

Before watering a lawn it is important to check that you are not in an area with a hosepipe ban or drought order in place.



WEED CONTROL

One man's weed can be another man's wildflower. However, if weeds on a lawn, such as dandelions, clover or daisies, are a problem then consider whether chemical or non-chemical removal is preferred.

Certain weeds thrive when the grass is weak so avoid cutting the grass too short.

Chemical Removal

If the weeds have become established then a chemical lawn weedkiller may be required. Spring and summer are the best times for using this type of weedkiller while the grass and weeds are growing.

It's vital that the instructions are followed and that the weedkiller is applied as the manufacturer recommends. It's also important to choose a weedkiller that is suitable for use on lawns so that the grass isn't damaged.



Particularly invasive weeds may require more than one treatment, although most should be dealt with by a single treatment with a suitable weedkiller.

Try to avoid using a chemical weedkiller within six months of overseeding or laying new turf as it may cause irreparable damage to the lawn.

Non-Chemical Removal

Regular feeding, aerating and scarifying will encourage vigorous grass growth and so make it difficult for the weeds to compete.

Weeds with basal rosettes, such as ribwort plantain, dandelion and creeping thistle, can be easily removed with a hand fork.

Weeds that are resistant to weedkillers should be dug out in the autumn then the area returned or reseeded.



Ribwort Plantain

AUTUMN

After the wear and tear of summer has taken its toll on the lawn, it will need some help to recover and ensure it is able to survive the winter months ahead.

In the lawn care calendar, autumn is the time for renovation and rejuvenation, a time for giving the lawn a pick-me-up and getting it into shape for winter. However, timing is crucial in autumn – leave it too late and the weather will be too cold for treatments to take effect so September is generally a good time, or if the weather is mild October.

Lawn care autumn tasks should include:

- [Moss Control](#)
- [Scarifying & Aerating](#)
- [Overseeding](#)
- [Top Dressing](#)
- [Feeding](#)
- [General Care](#)



MOSS CONTROL

If there are signs of moss appearing late summer then it will need a moss treatment to kill it followed by raking or scarifying to remove it. This should be the first job in the autumn lawn care program.

Before applying moss killer at this time of year, make sure that it doesn't contain nitrogen as this can have a damaging effect and lead to diseases in the lawn.

After applying the moss killer, wait for roughly 10-14 days for the moss to die off and then remove it by raking or scarifying.

For more on moss control see pages 3-4.

SCARIFYING & AERATING

Lawn Scarifying

Regular lawn scarifying will keep thatch, moss and other unwanted organic matter to a minimum and encourage the grass to grow healthily and vigorously.

Before scarifying check that the ground conditions are suitable. If the ground is too wet it will reduce the effectiveness of the operation, likewise, it's not recommended if the ground is too dry.



Ensure that the scarifier is set at the correct depth to be able to effectively remove moss. If thatch is also to be removed then it may be necessary to set the depth a little lower.

Test the machine on a small area first to make sure the settings are correct.

After scarifying, any debris that hasn't been collected needs to be removed then the lawn can be cut and, if necessary, overseeded.

Lawn Aerating

Aerating allows air and water to reach the rootzone and is vital to the health of a lawn to stop the lawn and soil suffering from compaction, becoming weak, and allowing weeds, moss and diseases to take hold.

Autumn aeration is important as following the increased traffic that the lawn will have had during the summer, the lawn is likely to be quite compacted.

If the lawn is very compacted or has a heavy clay content then use of a hollow tine aerator is recommended. This will remove plugs of earth which can then be filled with a top dressing.



OVERSEEDING

Following scarifying and aerating, the lawn will have holes and grooves so it is the ideal time for overseeding as the ground has already been prepared.

The autumn is also the best time of year for overseeding as the soil is still warm and so aids germination of the grass seed.

Always read the manufacturer's recommendations, but as a general rule, overseed at a rate of approximately 10-25g per square metre.

Additional traffic and hot dry weather during the summer may contribute to worn patches on the lawn. If this is the case and the lawn has just a few bare spots then simply overseed these. However, if the whole area has suffered, or different grass species are to be introduced, then it's recommended to overseed the entire area.

See pages 6-7 for more on overseeding.

TOP DRESSING

Top dressing has lots of benefits for the lawn. It helps to level an uneven surface and prevent thatch build-up; it promotes new grass growth; it can improve drainage, soil structure, drought resistance, and the lawn's resilience; and if applied after overseeding it can help protect the grass seed and retain moisture.

Top dressing is a mix of loam, sharp sand and peat/compost. When applied to a lawn it encourages greater rooting and thickening of the turf.

The ideal top dressing mix depends on the type of lawn it is to be used on. The following is simply a guide:

Sand-based lawn 4 parts loam
 1 part sharp sand
 3 parts peat/compost

Clay-based lawn 2 parts loam
 4 parts sharp sand
 1 part peat/compost

Loam-based lawn 3 parts loam
 3 parts sharp sand
 1 part peat/compost

Before applying the top dressing, mow the lawn a little shorter than usual. This will help when it comes to working the mix into the lawn and will help it get into the holes made by slitting or aerating.

If possible, top dressing is best done on a dry day when it is easy to work the dressing into the holes made by aerating.



The mix should be applied evenly at a rate of roughly 2-3kg per square metre. Leave it to dry and then work it into the lawn – the back of a landscaping rake is ideal for this. Repeat the process as many times as necessary to ensure the top dressing has been worked into the lawn. The top dressing needs to reach the soil and rootzone.

FEEDING

The application of a lawn feed or fertiliser in the autumn will help the lawn get through the winter and give it an advantage when spring arrives.

For autumn feeding choose a fertiliser specifically for this season; one that has a high phosphate (P) and potassium (K) content and low nitrogen (N) content. The phosphorous encourages a healthy root system while the potassium helps the grass with disease resistance.

It is important not to apply nitrogen to the lawn at this time of the year as it can encourage disease.

GENERAL CARE

Following completion of the autumn lawn care program, there are some basic tasks to do regularly to help your lawn prepare for winter.



Don't cut the grass too short. Raise the mower's cutting height to leave the grass a little longer and help the lawn fight disease.

Rake or brush the lawn. If fallen leaves and twigs are laying on the lawn then the grass will struggle to survive due to the covering of damp, rotting debris. These should be raked off at least once a week. A fan/leaf rake or besom broom is ideal for this so the grass isn't damaged.

WINTER

During the winter it is best to try and rest the lawn as much as possible, especially when the weather is wet or frosty.

Over the winter months the grass doesn't actually stop growing, but it does slow down and become dormant. However, if the temperatures are mild over the winter then it will soon start to grow.

With this in mind there is very little that needs to be done with regards lawn care over the winter, but there are some important do's and don'ts to bear in mind:

- [Mowing](#)
- [General Winter Maintenance](#)
- [Mower Servicing/Storage](#)



MOWING

During the winter mowing generally isn't recommended as the growth of the grass has slowed to almost a stop, however, even just a couple of days of milder weather can encourage the grass to start growing.

Following a spell of milder weather, and provided the ground isn't frozen, then the lawn will appreciate a light high cut – only the bare minimum – to help stimulate what little growth there is during winter.

Never mow the lawn if the grass is frosty or the ground is frozen as this will cause lasting damage. This also applies if the lawn is wet.

Likewise, if frost is forecast then don't cut the grass as the newly cut turf won't be able to withstand the freezing temperature.



GENERAL WINTER MAINTENANCE

Try to keep the traffic on the lawn to a minimum, avoid walking on it when it's covered in frost as this will damage the grass which won't be able to recover.

Keep leaves and other debris off the lawn to ensure that the grass isn't smothered by damp rotting vegetation.

Do not feed the grass in winter – the nitrogen in the lawn feed will encourage premature growth which could ultimately kill the lawn because the new grass will not be able to withstand the weather conditions.

Provided the ground isn't frozen, it's worth applying a soluble iron feed to the lawn to help harden the turf up.

There's no real need to remove snow from lawns. The grass underneath will be OK although when the snow melts it may show signs of snow mould (fusarium disease). See page 23 for more on fusarium disease.

MOWER SERVICING/STORAGE

Servicing

The start of winter is the best time to arrange for mower servicing so be organised and have a booking made early. Garden machinery service departments tend to be busy from November to January so it's worth planning ahead and making a booking as soon as possible.

If the service is done early in the winter, then the mower will be ready for use should there be a spell of milder weather.

Regular mower servicing will keep the machine in good condition and should help prevent any costly repair bills.



Before Storage

Once the mower has been serviced, then consider how to store it. The mower will be used less at this time of year so there are some important points to consider.

Most, if not all, of these tasks should be part of even the most basic mower service, but it doesn't hurt to give the machine a final check before putting it away for the winter.

IMPORTANT: Before undertaking any maintenance or cleaning always remove the spark plug (petrol engine machines only) and read the machine and engine owner's manual thoroughly. Always wear the correct safety clothing when necessary. Never undertake any maintenance that should be done by a professional.

Cleaning

Do not tip the mower sideways as this can cause oil to flow into the air filter or exhaust resulting in damage to the engine. To gain access to the underside of the deck, tip the mower backwards.

Check that there is no grass or dirt on the blades or under the deck. Cut grass can have a corrosive effect so is best removed prior to storage. In fact, it is worth clearing it off after every use to avoid a build-up. A plastic or wooden spatula can be used to scrape off grass from the underside of the deck.

Do not use a powerful pressure or jet washer to clean a mower as this can cause damage to the machine and engine. A bucket of water and a brush are the best tools to use, or a garden hose.

Fuel

If the fuel tank is partially full then the fuel should be emptied out as petrol can go stale which can lead to starting problems. The easiest way to remove the fuel is to run the engine until the fuel runs out.

Alternatively, if the fuel tank is full then a fuel stabiliser can be added. Follow the manufacturer's instructions and then run the engine for a few minutes to ensure the stabiliser is circulated through the carburetor. A fuel stabiliser can keep fuel fresh for up to 6 months.

Clean the fuel cap using a small brush or similar to remove any build up or debris.

Air Filter

The engine's air filter prevents dust and debris from entering the engine so it is important that it's kept clean.

A foam filter can be removed and washed using water and detergent. Ensure it is completely dry before refitting. If it is very dirty then consider replacing it.

A paper filter cannot be cleaned and must be replaced. Always refer to the machine or engine instruction manual for details.

Spark Plug

A worn spark plug will cause a reduction in engine performance and will contribute to an increase in fuel consumption.

It is generally recommended that the spark plug is replaced at least once a year or after 100 hours of use, whichever is soonest.

Engine Oil

Check the engine oil level and top up if necessary. The mower should always contain the correct level and type of engine oil.

It is usually recommended that the oil is completely replaced at least once a year. Refer to the machine or engine instruction manual for the correct type of oil.

Cutting Blade

Check that the mower blade is sharp and not damaged. It is important to make sure that there are no cracks or dents in the blade. If there is damage to the blade then it must be replaced. If the blade is blunt then it can be sharpened.

Fuel Filter

The fuel filter keeps dirt and debris out of the fuel mix so it's important that it is kept clean.

If the engine isn't performing well, or is spluttering it may be the fuel filter. Check that the filter isn't clogged and if necessary replace it.

It is generally recommended that the fuel filter is replaced once a year. Refer to the machine or engine instruction manual for details.

Storage

Following a service, and/or completion of the mower's maintenance, the machine should be stored in a dry, dust-free environment and on a flat, level surface.





Lawn Disease

A well-maintained lawn will not normally suffer from diseases, but even the best cared for grass can occasionally succumb if under stress.



Fusarium patch disease is the most common lawn disease in the UK and appears as irregularly shaped brown areas of turf.



Red thread disease normally occurs in the late summer and early autumn months and is identified by irregularly shaped pale pink areas on the lawn.



Fairy rings are caused by fungus. They commonly appear as a ring of dark green grass containing the fungi. There are three different types of fairy ring.



Rust disease can spread quickly through a lawn. It creates yellow patches which, upon closer inspection, are actually orange fungal pustules.

FUSARIUM PATCH

Fusarium, also referred to as snow mould, is the most common lawn disease in the UK and causes irregular shaped brown patches on lawns. It is particularly prevalent during late autumn and through to spring.

The variation known as snow mould is the same disease but it only occurs after prolonged snow cover. The variation known as fusarium patch is more common and is primarily found on old turf or fine turf.

The disease is caused by a fungus called *Monographella nivalis*. It is one of the most damaging diseases for lawns and can be difficult to control.



A lawn suffering from fusarium patch disease

The first signs of fusarium patch are small patches of yellowish or straw coloured grass which eventually turn a darker brown.

A single patch can grow up to 30cm or more in diameter and can merge with others so that they create even larger patches.

In wet conditions a white or pale pink fungal growth that looks like candy floss may be seen around the edges of the patch.

Fusarium patch usually appears during still humid conditions and on wet grass, and the symptoms can be masked in the summer by the grass growth.

As the weather cools and the growth slows the disease becomes obvious.

The fungus lives in the surface water on the grass blades so heavy dew and still air encourage its spread.

The fungus thrives in temperatures ranging from 12-19°C but it can survive in temperatures as low as -20°C!

Grass with a high nitrogen level and alkaline soil conditions also encourage the disease.

In order to control the disease ensure that the lawn dries quickly after rainfall or heavy dew by scarifying and aerating to improve drainage.

If possible, remove heavy dews in the morning using a pliable cane or rod.

Avoid using fertiliser late in the summer or autumn that has a high nitrogen content, where possible use a specialised autumn lawn feed instead.



The candy floss-like growth in wet grass

If the lawn has been damaged and needs repair, follow the information on page 6.

RED THREAD

As with fusarium patch, red thread is another common cause of dead patches of grass on lawns. It can develop at any time of the year but is mainly seen during late summer and in autumn.

Unlike fusarium patch though, red thread does not usually cause permanent damage, and with appropriate treatment the grass will make a complete recovery.

Red thread is caused by a fungus called *Laetisaria fuciformis* and usually affects lawns with low nitrogen fertility.

There are two signs of red thread. The first is irregular shaped patches of grass with a reddish tinge.



Red thread stromata

This is caused by the red/pink thread-like vegetation (stromata) growing amongst the grass.

The second is a pink cotton wool like growth on the surface of the lawn. This is often misdiagnosed as the fungus that causes snow mould.

As the disease takes hold, these patches become almost bleached in appearance.

The infected patches tend to be around 7-8cm in diameter but can merge together to become much larger.

Red thread thrives in wet summers and during heavy dews in autumn as it requires leaf wetness in order to spread.

It is also most likely to be a problem on lawns that are deficient in nitrogen or are poorly aerated.

The fungus does not affect the rootzone so any infected grass should recover after a few days or weeks without any intervention.



Patches of red thread on a lawn

The best way to prevent red thread is to make sure the lawn has good levels of nitrogen and potassium which can be easily achieved by regular feeding.

If overseeding is required always try to choose a variety of seed that is disease resistant.

Finally, try to maintain a soil pH of around 6.5-7.0 (7.0 is the neutral point for soil pH).

FAIRY RINGS

Fairy rings in lawns are caused by a fungus called *Marasmius oreades*, which commonly grows during the summer and autumn and thrives in grass areas.

The vegetative part of the fungus (white thread-like strands called mycelium) feed on organic matter in the soil, and gradually work their way outwards as their food sources are depleted which is what causes the circle shape that is seen on lawns.

There are three types of fairy ring, some being more damaging to lawns than others.

Type One Fairy Ring

This is the most common type of fairy ring, and unfortunately is also the most damaging as it will kill the grass. It is identified by a ring of dead grass adjoined by lush dark green grass. The circle will often be populated by toadstools and the soil will have a strong musty smell and evidence of the mycelium.



Type one fairy ring

As the fungus lives off organic matter in the soil it causes nitrogen to be released in the soil and so stimulates grass growth resulting in the lush green circles grass that surround the dead ring.

The dead grass is a result of toxin produced by the mycelium in the rootzone. This is further exacerbated by the water repellent mycelium forming a barrier which prevents grass on the surface from getting water.

Once the ring has dried it will be very difficult for it to absorb water so the best way to treat this type of fairy ring is to aerate the area using a solid tine and apply a wetting agent before the area becomes too dry. If it doesn't rain after a few days then the area will need to be watered. This process can be repeated as often as necessary.

If all else fails, and usually only as a last resort, the ring can be removed by digging it out. The whole of the dead area and at least 50cm to either side would have to be removed to a depth of at least 30cm.

The infected soil should then be replaced with fresh soil (it's vital that none of the infected soil is left behind or spilled during the excavation) and finally reseeded. This is an expensive, time consuming option and there is no guarantee of successful removal.

Type Two Fairy Ring



Type two fairy ring

This type of fairy ring is identified by stimulated grass growth in a circle or arc shape and may or may not contain toadstools or puffballs.

The grass won't be killed by this type of ring, but it may be scarred. The lush green ribbons, as the dark green circles are commonly referred to, are more obvious in long dry summers when the surrounding areas are often lacking colour.

There is no remedy but the symptoms can be masked by applying nitrogen and iron to promote a deep green colour in the lawn so making the fairy ring less obvious.

Type Three Fairy Ring



Type three fairy ring

This third type of fairy ring only produces a circle of toadstools or puffballs and does not affect the grass. It tends to only be obvious in spring or autumn when the weather is wet.

There is no treatment other than removing the fungi by picking, mowing or brushing it.

RUST DISEASE

Rust disease is a fungal disease that affects not only grass, but also leaves of garden plants and trees. It is generally seen mid to late summer and during autumn.

The first signs of rust disease are yellow flecks on the grass blades which enlarge, eventually developing into pustules.

These orange pustules can disperse huge numbers of uredospores when touched.



Rust disease on a blade of grass

Rust disease mainly affects poorly maintained turf and grass that is suffering from poor nutrient levels, too much shade, and lack of moisture. It needs several hours of surface moisture to germinate so is most obvious during wet summers and in autumn when heavy dews are a common occurrence.

The disease doesn't usually kill the turf, and the symptoms are temporary, but it does look unsightly and if left untreated the small areas can merge to become larger.



The orange-coloured tinge of rust disease

In addition to the visual aspect, the rusty spots will come off when touched so will cover the shoes or feet of anyone walking through the grass in an orange substance!

Rust disease can be controlled by mowing the lawn frequently and collecting the cuttings. Ensure that the lawn mower is washed after use to prevent the spread of disease.

Reduced air circulation provides the perfect breeding conditions for the spores so scarifying to remove any moss or thatch will also help prevent the disease. Likewise, prune overhanging vegetation to improve air circulation.



Lawn Pests

Lawns can be vulnerable to pests for many reasons but a well maintained lawn will be more resistant.



Chafer grubs are the larvae of the chafer beetle and feed on the grass roots loosening the turf and eventually killing the grass.



Leatherjackets are the larvae of crane flies (daddy long legs) and also eat the rootzone causing brown patches on the lawn.



Moles will tunnel underground searching for food and the resulting mole hills not only make mowing difficult but destabilise the lawn.



Wormcasts are unsightly on the surface of the lawn and when wet they can be smeared into the grass by mowing, killing the grass underneath them.



Ant hills or nests also look unsightly on a lawn but rarely cause any damage to the turf. Biological controls are available to control them.

CHAFER GRUBS

Chafer grubs are the soil dwelling larvae of the chafer beetle.

They have stout white bodies in a C shape and vary in size depending on the species (there are six species in the UK) from anywhere between 8mm and 35mm. They can live for up to 3 years in the soil if left untreated.

Some varieties of this species feed on the grass roots therefore becoming a problem on lawns.

The damage is usually most obvious between autumn and spring and is evidenced by yellowish patches on the lawn.



Chafer grubs underneath turf

The grubs eat the grass roots and as a result the turf dies and becomes loose. Birds, foxes and badgers who feed on the grubs then tear up the loose turf to resulting in even more damage to the lawn.



A chafer grub larvae

As with other lawn problems, the symptoms can be minimised by regular maintenance such as aerating, scarifying, feeding and watering.

However, if the grubs are a problem and need to be eliminated then pathogenic nematodes are available.

The nematode attacks the grub and infects it with a fatal bacterium. The nematode is best applied during late summer or early autumn when the soil is warmest, it needs to be at least 12°C, and the grubs are active.

The soil needs to be sufficiently moist for the nematode to survive so may need watering before and after application. Always read the packaging prior to application and follow the manufacturer's instructions carefully.

LEATHERJACKETS

Leatherjackets are the soil dwelling larvae of the crane fly (daddy long legs). They have elongated greyish-brown bodies and can grow up to 40mm in length.

The juvenile crane fly lays up to 300 eggs in the soil in early autumn, usually around mid-September. The eggs hatch after a couple of weeks and the larvae then begin feeding through to the end of the summer until they hatch around the end of August.



A leatherjacket larvae

As with the chafer grub, the leatherjacket feeds on the roots of the grass and ultimately destroys the root system and kills the grass. Birds that feed on the leatherjackets will also damage the turf.

An easy and cost-effective way of removing the leatherjackets is to thoroughly water any yellow patches on the lawn then cover the areas with black polythene or similar (needs to be impervious to light). The leatherjackets will make their way to the surface so that when the cover is removed in the morning it should have collected most of the larvae.



A lawn damaged by leatherjackets

Alternatively, pathogenic nematodes are available which can be watered into the lawn so that they infect the leatherjackets with a fatal bacterial disease. The soil should be moist and warm with a minimum temperature of 12°C in order for the nematodes to survive, so the ideal time for this would be September just after the eggs have hatched.

However, the issue here is that by the time the leatherjacket damage is obvious, the soil will be too cold for the nematodes to be effective so if leatherjackets are known to be an issue then consider applying the nematodes as a preventative measure. As the soil needs to be sufficiently moist for the nematode to survive it may need watering before and after application. Always read the packaging prior to application and follow the manufacturer's instructions carefully.

MOLES

Moles are burrowing mammals that live a solitary existence underground in a series of tunnels.



Surface evidence of mole tunnels

They live on a diet of earthworms and soil-dwelling grubs which they scour their tunnels for. They have very poor eyesight and so use their other senses – touch, hearing and smell – to locate their prey.

A mole has very powerful forelimbs with large paws for digging. They have a cylindrical body with dense black velvety fur and are normally 15-20cm in length.

Signs of a mole infestation include raised mounds of earth (molehills) which can look unsightly on a lawn and make it difficult to mow. The molehills are created by the waste soil that has been excavated during the tunneling. Larger molehills can be a sign of a nest site.

Whilst moles don't actually feed on the grass, their burrowing can harm the root system and cause considerable damage, especially to newly seeded lawns. In some cases this can even lead to subsistence. The underground tunnels are around 4-5cm in diameter and are can vary in depth anywhere from 5-45cm beneath the surface.

If the moles are to be left where they are then it's advisable to remove the fresh molehills straight away and flatten the area. This leaves the tunnels undamaged and reduces the need for the moles to make more molehills.

Moles can be controlled or encouraged to move elsewhere using various methods.

One way is to eliminate their food source (mainly worms and grubs) to control their activity. Other options include repellents, traps, or poisons.

Live capture traps are available and the best time to use them is early spring or late winter



Molehills on a lawn

when the moles are most active. It is important that these are checked at least twice a day so that the mole can be released quickly before it dies of dehydration, starvation or stress and the mole must be released at least one mile away.

Electronic repellents can be an effective, humane and relatively inexpensive option. These are designed to emit a sonic pulse into the ground that only the mole can hear. The continuous disturbance should then encourage the mole to move away. It may take longer than with other options but doesn't involve the use of traps or poisons.

Other types of mole repellent include granules which emit castor oil that penetrates the ground and deters worms etc from entering the tunnels so the moles move elsewhere in their search for food. It doesn't harm the moles or the surrounding area.

Alternative options include mole traps which are designed to humanely kill the mole or mole pellets that emit a toxic gas into the tunnels. It is often recommended that a professional is used for the trap method as if they are set incorrectly the mole may not be killed outright. The pellets can only be used by professionals and shouldn't be used within 3m of residential dwellings.

WORMCASTS

Wormcasts are small mounds of muddy soil that appear on the surface of the lawn during late autumn through to spring.

They are created by the earthworms ingesting soil whilst feeding on dead vegetation. The soil is then excreted on the surface of the lawn. There are only a few species of earthworm that excrete casts on the surface – the majority of earthworms excrete their waste material underground.

These wormcasts can look unsightly on a lawn and often get trodden on or mowed and then spread around the grass. In addition to creating muddy, slippery areas on the lawn, this bacteria-rich waste can create areas where moss and weeds can become established.



Wormcasts on the lawn's surface

The wormcasts appear more prevalent during the autumn as the air to water ratio in the soil changes, and the wetter the weather, the more active the worms will be.



An earthworm just beneath the surface

Earthworms are very beneficial to soil structure so killing them isn't recommended. In fact they play such an important role that they have even been called 'ecosystem engineers'. Earthworms loosen and mix up the soil, break down and recycle decaying plant matter and fertilise the soil by bringing nutrients closer to the surface. Finally, they are also an important source of food for other animals and birds.

If wormcasts are present then the best way to rid the lawn of them is to wait until they're dry, then sweep them off the surface using a bamboo cane or besom broom.

The most effective solution however, is to apply a worm cast suppressant to the lawn in early autumn. This won't kill the worms, it will simply create a barrier in the soil that is an irritant to the worms so they won't want to pass through it. It will require repeated treatment to remain effective.

ANT HILLS

Ant hills are small mounds of soil that are the result of ants depositing the soil on the surface during nest building.

This can cause a nuisance on lawns as it not only looks unsightly, but can also damage the grass by covering it.

The ants don't actually damage the grass itself, they simply disturb the surrounding soil so unless the ants are causing a major problem, they are best left alone. A colony can be destroyed using chemical controls, but there is every likelihood that a new colony will soon take over the territory.



An ant hill amongst grass on a lawn

If ant hills are a problem on lawns then they are best dispersed by brushing them (this should be done on a dry day) and then mowing the lawn after dispersal so the soil doesn't get spread across the lawn's surface.

If the lawn has suffered from ant activity for years then the surface may be uneven. If this is the case then peel back the raised area and remove the excess soil before relaying the turf. This is best done during the winter when the ants are less active.



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