Lawnscience Lawn Guide





Welcome

Welcome to the Lawnscience Lawn Guide designed to give you factual information behind the successful growth of yours or any lawn. We have also provided some Top Tips to help you look after your lawn in between our treatment visits.

We hope you find it helpful

Mark Batty



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What makes a great lawn?

Soil

Soil is really the foundation of your lawn, and the type of soil you have under your lawn will influence not only the quality of your lawn, but will also dictate the type of treatments you need to apply to your lawn in order to keep it in good condition. The "soil structure pyramid" demonstrates how the main constituents of soil, i.e. clay, silt and sand combine to make up the various soil types.

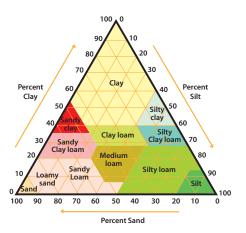
In the UK there are five broad types of soil:

Peat based soils contain a high level of organic material due to the high acidity level slowing down decomposition. This soil can tend to retain water and may benefit from a drainage system. It also tends to contain low levels of nutrients, but if fertilised correctly can provide an excellent growing medium for turf.

Chalk based soils tend to contain stones of varying sizes and have the added disadvantage of drying out quickly in the summer. Normally alkaline, these soils tend to block trace elements such as manganese and iron. Lawns grown on chalky soils will require regular fertilisation due to leaching.

Loam based soils are perfect for the development of a quality lawn. Normally rich in organic matter they tend to retain moisture and nutrients.

Sand based soils created by the breakdown of rocks they tend to drain rapidly, drying out in sustained periods of warm weather. Fertilisers tend to leach through these soils creating the requirement for a regular fertilisation regime.





Clay based soils are the opposite of sandy soils, containing very small amounts of air spaces within their structure, they tend to hold on to water and have a tendency to compaction.

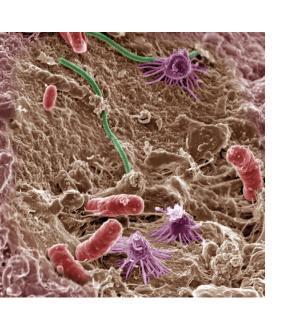
Soil and pH

pH is the measure of the relative acidity or alkalinity of soil. In certain cases it can have significant effect on the quality of your lawn. It is measured on a scale of 1-14, 1 being highly acid, 7 being neutral and 14 being highly alkaline. Generally peat based soils tend to be acid whilst chalk based soils tend to be alkaline and clay soils tend to be neutral at around 7.

Lawns tend to favour soils with a pH of around 6-7 and in most gardens this is normal.

A pH of 6.5 is the point where nitrogen, phosphorous, and potassium (N-P-K) and trace minerals are most easily available to grass in order to feed it

Your lawn science technician will measure your soil's pH and will advise if adjustments are required. If you require advice on your lawn's pH please email mark@lawnscience.co.uk.



Soil pH Measures **Hydrogen Ion Activity** Acidity/Basicity Soil pH compared to pH 7.0 9.0 8.0 10 7.0 Neutral 6.0 10 5.0 100 4.0 1000

Soil and microbes

There are literally billions of microbes in the soil beneath your lawn and they supply an important service to your grass.

Their main role is to decompose organic materials such as roots and leaves within the root zone, releasing previously organically bound Nitrogen and Phosphorous in an inorganic or mineral form which can be utilised by the roots of your grass. Lawnscience have available a series of soil conditioner treatments which can help stimulate microbial activity within your soil.

Please email mark@lawnscience.co.uk for further information

Aeration

At some point in time, your lawn will suffer from lawn compaction.

It may be due to foot traffic, pets, children playing on the lawn or even the process of mowing your lawn, but whatever the cause your lawn will become compacted. It is not actually the lawn that becomes compacted, but the soil beneath the lawn's surface that suffers from compaction.

Normally the soil beneath your lawn is made up of a healthy balance of soil particles interspersed with air pockets. These air pockets contain oxygen, which is essential for the health of the root system and enables water and nutrients to travel through the soil profile. The grass roots also make use of these air pockets as channels in which they can grow. When soil is compacted these air pockets are compressed reducing the supply of oxygen to the root system and restricting the flow of water and nutrients through the soil profile.

Certain soils, such as those containing clay particles, are more prone to compaction.

Common signs of lawn compaction are the thinning of the grass surface and the invasion of shallow rooting weeds. Compaction can be relieved by hollow-core agration





Scarification

Lawn Thatch is a layer of decaying organic matter on the surface of your soil. It consists of grass cuttings, stems, crowns and other parts of the grass plant that are no longer viable.

All lawns will have a thatch layer and as long as it is kept under control, about half an inch or less, it can have beneficial effects such as providing a cushion to the lawn's surface and also as a breeding ground for beneficial macro and micro-organisms.

It is when the lawn thatch layer gets out of control that problems start. This organic mat covering the soil's surface starts to restrict the flow of water and nutrients down into the root zone. It also becomes a fertile breeding ground for potentially dangerous grass pathogens and insects that attack the grass plant. As the thatch layer also holds onto the water it encourages the development of moss.

Lawn Thatch can be removed by a process called Scarification where a petrol-powered scarifier cuts into the thatch mat and removes it to the lawn's surface where it can be safely removed. Lawns, like most plants, require three things to thrive; light, water, and food. We'll explore the importance of these three inputs below.

Light

Sufficient light is important to healthy grass growth. Without becoming too technical, a healthy grass plant needs a large, deep root system to prosper. To create a healthy root system the roots require carbohydrates which they cannot produce for themselves because they don't contain chlorophyll. So the root system depends on the grass above the surface to supply it with carbohydrates.

Light falling on the grass above ground level helps to achieve photosynthesis, which in turn produces carbohydrates. The more carbohydrates produced within the plant, the more are moved within the plant to the root system, creating healthy, deep roots.

So simply put, poor light equals poor roots and poor roots equal weak grass. Now you understand why grass in shady areas tend to be weak and sparse, and quite often full of moss.

If you have grass in shady areas it may be possible to improve its chances of survival by over-seeding with a more shade tolerant variety. Please email mark@lawnscience.co.uk for more information.





Water

All plants need water to survive and grass is no exception. The amount of water a lawn needs depends on three main factors:-

The climate

In warm periods grass can lose valuable water by evaporation and by transpiration. Evaporation is the water lost from the surface of the soil and, as with most lawns, the surface of the soil is hidden beneath the grass this tends to be limited. Transpiration is the water lost from the plant itself similar to a human sweating. The level of transpiration is determined by the relative humidity of the air, if it's humid less water is lost, if it's arid more water will be lost.

The type of grass

Different types of grass have different rates of transpiration. This is more exaggerated in the USA where they have warm and cold season grasses, an issue we do not have in the UK.

The type of soil

Sandy soils have a poor water holding capacity and the water not utilised by the root system can quickly drain away. Clay soils tend to hold water on the surface in puddles which evaporates before it can reach the root system. Loam based soils tend to provide the best balance between allowing the soil

to percolate down into the root area, but holding onto it long enough for the roots to have time to capture it.

How often to water is best decided by looking at the grass itself. The first sign of lack of water will be the grass losing its springiness. This is the time when you should start watering. If water is not applied the grass will lose its bright green appearance and develop a grey-green hue. At this stage it's really crying out for water and delay in watering will encourage the grass to turn yellow and eventually a pale straw colour.

It is better to give the lawn a good soaking, say down to a depth of 4 inches, once a week than to lightly water every day. Letting the grass dry out between watering will encourage air to enter the soil and encourage deeper rooting of the grass.

The best time to water is in the early morning before the sun is high in the sky. Watering during the day only leads to high evaporation levels and the grass missing out on some of the water. Watering in the evening reduces evaporation, but tends to keep the grass canopy wet for long periods which encourages fungal disease.





Fertilisation

Like all living organisms, lawns require food and feeding should commence March to April when the grass starts to grow. At this time of year your lawn will require a nitrogen rich fertiliser.

Approximately 6-8 weeks later a second feed should be applied to maintain the vigour of the grass. Subsequent fertilisation will depend on your soil type and seasonal conditions. The final fertilisation will be required during autumn. This is important fertilisation as it strengthens and prepares the lawn for the rigours of winter.

The main elements of Lawn fertilisers are **nitrogen** (N), phosphorus (P) and potassium (K).

Nitrogen is required in larger quantities than phosphorus and potassium as it is an essential component of chlorophyll, amino acids, proteins, nucleic acids, enzymes and other plant substances. Grass normally consists of 3% to 5% nitrogen this being required to ensure healthy plant growth.

Phosphorous is used to hold and transfer energy within the plant for metabolic processes. Highly mobile within the plant phosphorous is conserved and used repeatedly to assist cell production.

Potassium is second only to nitrogen in the amount required to sustain grass growth. It plays an important part in the synthesis of numerous plant compounds and in the regulation of many physiological processes.

Secondary elements such as sulphur, calcium and magnesium are also present in some fertilisers.

Grass

Quite often we tend to think of grass as just being grass, but there are many different varieties or species of grass and they each have differing characteristics. Your lawn will be made up of a mixture or blend of different grasses. This is done to blend the different characteristics such as texture and colour. It also gives the lawn a resistance to diseases. Differing types of grasses have different characteristics, below are some of the popular types used in lawns:-

Perennial Ryegrass (Lolium Perenne)

A tufted grass which has a dark green appearance, good tolerance to wear and tear and requires a medium level of fertilisation. Normally a lawn will contain some Ryegrass as it provides a good strong base.

Chewing's Fescue (Festuca Rubra spp. Commutate)

A dense grass that grows in tufts has a medium green appearance, moderate tolerance to wear and requires low levels of fertilisation. One of its main characteristics is that it can survive very close cutting, down to 5mm and therefore is often used in mixtures for golf greens.

Brown Top Bent (Agrostis Tenuis)

A creeping grass, producing slender stolons and rhizomes, these are shoots that run horizontally along the surface and just below the surface of the soil. It has good tolerance to wear and requires a medium to low level of fertilisation. Again this grass can be mown very short at 5mm and is regularly used in quality lawns.

Seed blenders create different mixes of grasses to deal with differing circumstances. There are mixes for heavy wear areas, mixes for fine ornamental lawns, for utility lawns and for shady lawns.



Quite often lawns in shaded areas become quite weak, this may be because the mix of grass sown was not suitable for a shady area.

Lawnscience offer an over-seeding service whereby a new grass mix is introduced into your lawn to either improve its appearance or increase its tolerance to heavy traffic or shade. Your lawnscience technician will be pleased to advise you on a suitable mix for your particular needs.

If you would like advice in this area please email mark@lawnscience.co.uk

Weed control

Someone once defined a weed as "a plant growing where it was not wanted" so I suppose weeds are a personal issue. Some people don't mind the odd weed in a lawn, some spend ages inspecting their lawns and removing every last one. But, whatever your view in the long term if you are to have what is commonly regarded as a quality lawn, weed control will need to be managed.

There are two approaches to weed control, physical removal and chemical management. Physical removal requires the complete removal of the plant root and all, which can be no mean feat as many weeds produce strong deep roots which tend to break up in the ground during removal. This makes the task all the more difficult as it is essential to remove all of the root. If not the root remaining can spawn new weed life and you are back to square one. Chemical removal is achieved by the application of a "selective" herbicide; these products attack weeds whilst leaving grasses unaffected.





The way they work is by entering the weed plant and moving through the plant (translocating). They interfere with the hormonal balance of the plant impairing food movement within the weed and eventually the weed dies.

Herbicides are safe if used and applied correctly. All Lawnscience personnel are trained at agricultural college on the correct storage and application of herbicides. When applying herbicides to a lawn we take a controlled approach ensuring that only sufficient herbicide is applied to deal with the weed infestation.

If you have issues with lawn weeds please email mark@lawnscience.co.uk for further information

Disease and pest control

Lawns can get attacked by pests and diseases, if preventative action is not taken to protect them. In the UK there are three pests and three diseases which cause the most problems.

Red Thread

Red thread infection can occur on all lawn grasses, but is particularly common on ryegrasses and fescues. Mild, damp weather is favoured



by this fungus, Laetisaria fucifrormis. Red Thread used to be prevalent on under-fertilised lawns, but recently we have noticed this fungal disease even on well fertilised lawns. Red Thread is quite easy to identify by the red shards that grow outwards from the leaf.

Fusarium

The most common UK lawn disease, caused by the fungus microdochium nivale. Cool and wet conditions are favoured by this fungus and also grasses which are



weak as a result of lack of nutrition. All UK grasses can succumb to fusarium patch, but the disease is normally seen first in Poa annua due to its shallow rooting. Initial infections are small, but these can rapidly enlarge. The disease can be recognised by the white or pink gossamer-like mycelium on the leaf surface.

Rust

Rust can attack all UK lawn grasses, but is particularly attracted to perennial ryegrass and Poa pratensis. It can occur throughout the year, but is



normally seen during early summer to late autumn during mild humid weather. Rust is easy to identify. The affected grass appears rust coloured due to the spores present on the leaf.

Leatherjackets

During August/ September you will normally see swarms of daddy long legs (Crane flies) bouncing about your lawn



having hatched from their pupae state. 24 hours later the female lays her eggs in lawns, providing her young with a short term food source. After a period of about two weeks the larvae hatch and start to feast on the roots of your lawn creating havoc. Normally the first signs of damage is disruption to the grass surface caused by birds attempting to make a meal of the feasting leatherjackets. Other signs are a yellowing of the grass. Leatherjacket damage can be disastrous to a lawn and in some cases can completely destroy it.

Chafer Grubs

The garden chafer is the larval stage of the May Bug. They normally cause most damage to lawns in August and September in a similar way to the



leatherjacket, they feed off the plant roots. Normally healthy turf can suddenly wilt and die.

Worms

Worms are great for soil. They create large channels that encourage gas exchange and allow water and nutrients to penetrate deep into the soil. They also act as a little



aerator benefitting the soil structure and they actually help to decompose thatch. However they do cause problems when they surface, normally in the wetter winter months. They produce casts, which are little heaps of soil that have passed through the worm. These casts tend to smear on the lawn's surface covering the grass beneath them and creating ideal seeding ground for weeds and moss.

To find out how
Lawnscience can help
you with disease *
and pest control in
your lawn, email
mark@lawnscience.co.uk



"Whatever your lawn disease, Lawnscience can apply curative or preventative products to keep your lawn looking good."



Moss control

Moss is one of the major problems with lawns and in England a regularly recurring issue. The reason why moss gets into a lawn is that for some reason the grass thins and creates a space within the lawn for moss to inhabit. The main reasons for the thinning of the lawn are:-

- Compaction
- · High levels of thatch
- Shade
- Close mowing
- · Insufficient soil depth

The best way to manage moss is to make sure that it does not get the opportunity to infest the lawn in the first place. This can be achieved by maintaining a thick lush lawn. In order to achieve this we recommend the following approach to moss management:-

Correct mowing height

Mowing grass too short weakens the plant by reducing the leaf area which in turn reduces the amount of light taken up by the plant. There are some species of grass which can survive with close mowing. Examples would be slender creeping red fescue, Chewings Fescue and Broad top bent. These grasses can survive mowing to a level of 5mm. These grass types would be used in seed mixtures for golf greens because of their ability to survive close mowing. The problem is that most domestic lawns do not contain a high proportion of these types.

The mowing height also affects the depth of the root system. The deeper the roots the better the plant will deal with issues such as wear and tear and disease. For more information on mowing heights see the section on mowing below.

Regular scarification

Scarification is the process by which thatch is removed from the top surface of the lawn. Thatch is

basically decomposing organic matter and the living roots, crowns and stems of the grass, which lays on the surface of your lawn forming a dense spongy mat. Excessive thatch can cause disease issues within lawns as it creates a good media for turf pathogens and insects to survive in. It also acts like a sponge absorbing moisture and preventing its movement to the root zone where it can be absorbed by the grass roots.

Depending on the condition of your lawn it may be advisable to over-seed your lawn after scarification. This process inserts new seed into your lawn creating a thicker more lush appearance.

Your Lawnscience specialist can advise on the need for scarification and over seeding. If you would like an assessment or more information on thatch, scarification and over seeding please email mark@lawnscience.co.uk.

Aeration

Over time lawns deteriorate as a result of soil compaction. Compaction is literally the squashing together of soil particles reducing the spaces between the soil particles. This affects the root development of the grass because there is little or no space for the roots to develop and also a reduced supply of oxygen, essential of healthy roots. The process of aeration improves the gas exchange between the soil and atmosphere and increases the rate at which thatch naturally breaks down. There are basically two types of aeration, solid tine and hollow tine. Solid tine aeration is achieved by driving solid tines into the lawns surface promoting gas exchange. Hollow tine removes a core of soil which has the added benefit of reducing compaction in the soil.

You lawnscience specialist can recommend the appropriate aeration for your lawn. For further advice please email mark@lawnscience.co.uk.

Standard Treatment Programme

5 visits per annum

Our Standard Treatments Programme is designed to quickly improve the quality of your lawn and to eradicate any weeds. Your lawn will get what it needs at the right time throughout the year at a cost far less than you think. The Standard Treatments Programme consists of five beneficial treatments. These will be applied at the right time of the year for your lawn's health and appearance. We will work with you so any treatments can be amended to suit your lawn's condition and your budget.

Spring treatment - March to May

As your lawn emerges from its Winter dormancy its requirement for nutrients starts to increase. This is the perfect time for an application of your first annual fertiliser containing Nitrogen and Magnesium. These two nutrients gently manage the early growth of your lawn and at the same time improve its colour. A selective herbicide is applied to your lawn to control early weed germination. We review the condition of your lawn concentrating on the prevention of lawn disease and insect attack.



Early summer treatment - May to July

At this time of the year your lawn is in its peak growth period. As a result, your lawn requires an additional Nitrogen boost along with other nutrients in order to maintain its lush green colour. We also apply a selective herbicide treatment to manage the more difficult weeds. We review the condition of your lawn concentrating on cutting heights and irrigation.

Late Summer Treatment – July to September

Over Summer your lawn's growth rate slows down, as a result of the hotter weather. However, it still has a requirement for a balanced fertilisation application. At this time of the year we pay careful attention to the local weather conditions and will either apply a granular or liquid treatment, whichever is the most appropriate for your lawn. A spot herbicide treatment is applied to any stubborn weeds that may remain in your lawn. We review the condition of your lawn concentrating on sward density and soil condition.

Autumn Treatment – September to November

During the Autumn months the fertilisation requirements of your lawn changes. So we use a granular fertiliser containing less Nitrogen and increased levels of Potassium to toughen up the cell walls and provide protection against fungal disease. We review your lawn's condition concentrating on sward density and soil condition.

Winter Treatment - November to February

Our Winter Treatment focuses on the control of moss. This application does not stimulate growth of the grass during this dormant stage but maintains a dark green colour. We review your lawn's condition for any potential fungal disease.

Premium Treatments

The Standard Treatments can be enhanced to include Micro Nutrients which help the beneficial bacteria in the root zone to thrive and multiply. There is a small additional charge for these Premium Treatments.

Top Tips

How to Mow your Lawn

In order to maintain a quality healthy lawn it is essential to mow correctly and on a regular basis. The first thing to remember is that it is the blade of the lawnmower that does the work. It is advisable to have the blade sharpened at least every year and, if possible, twice a year. Mowing with a dull blade will "rip" the grass and this will cause the tips of the grass to bruise and turn brown, giving the lawn a brownish tinge.

The mowing season normally starts in March. It is important not to cut too much off the grass at this time. Try to remove no more than one quarter to one third of the grass length initially, otherwise the grass will become stressed. A little and often approach is better during the early months of the year. In Spring, you should be mowing to a height of at least one and a half inches on normal domestic lawns.

As we move into Summer and the temperatures increase, the growth of your lawn will slow down. Mow as needed but again be careful not to remove more than one third of the grass leaf at any time. If temperatures become very high it may be necessary to reduce the frequency of mowing. During the Summer months you should be mowing to a height of two inches on normal domestic lawns.

During Autumn the growth rate will increase.

Towards the end of Autumn mow to a cutting height to at least one and a half inches. Mowing can continue into the Winter months as needed. If mowing is required, try to ensure that it is done when the grass is dry.

Throughout the year try to resist the temptation to cut the lawn too short, it is sometimes tempting to cut a domestic lawn as short as those seen on golf courses but resist this temptation at all costs. The grasses used on golf greens are specialist cultivars that can thrive whilst cut short.



Cutting a domestic lawn too short provides an ideal environment for lawn weeds and can lead to the development of lawn moss.

Finally, avoid mowing when your grass is wet, this will tend to rip the grass as opposed to cutting it.

How to Water Your Lawn

Lawns are living plants consisting of over 85% water, therefore they need water to survive. For the majority of the year they will receive sufficient water from the soil and rain, however during dry periods it may be necessary to provide additional water by irrigation. You water your plants and shrubs so why not water your lawn as well?

How you water your lawn depends upon the type of soil that you have. Sandy soils are poor at retaining water, so they should be watered little and often. Whereas clay based soils can hold onto water for longer periods. These soils need to be watered thoroughly and then left to dry for a period. If you water clay soils on a frequent basis this will promote shallow rooting as the roots find the water they need too easily.

If you observe your lawn it will tell you when it needs to be watered. As its moisture reserves become depleted the grass colour will develop a bluish tint and become dull and it will lose its ability to spring back after being walked on. This is the time to water. When it starts to turn straw like it is a sign that it is starting to enter a dormant state through lack of water.

Choosing the time of day to water is important, early morning is perfect. The soil is capable of taking the water and any left in the grass leaf area evaporates as the sun rises. If you water in the evening the grass leaf area remains wet as the night-time temperature falls. This can promote fungal diseases such as Red Thread or Fusarium.

Keeping your pets safe!

Our treatments are safe for both children and pets although we do ask that you keep children and pets off the lawn until the herbicide has dried - this takes approximately 1–2 hours depending on climatic conditions.

Grazing pets such as rabbits and guinea pigs should be kept off the lawn for a minimum of two weeks or three cuts, whichever occurs latest, to avoid ingestion of applied treatments.

Your dog might be your best friend, but it's not always your lawn's best friend. Quite often customers ask why straw coloured patches are appearing on their lawns. The problem can be their best friend, as the damage to the lawn is caused by the urea within the dog's urine.

All dog's urine contains urea, a form of organic nitrogen that converts to nitrates. Urea can actually be good for your lawn if used in low doses; in fact, it's a component of many fertilisers. Besides nitrogen, urine also contains potassium and phosphorus which are all essential components for healthy soil. However, dog urine contains a large amount of urea.

When your dog urinates on your lawn it has such a strong concentrated level of nitrogen, that your grass will be destroyed leaving ugly patches of dead grass.

There are products on the market which claim to reduce the effect of dog urine on lawns. The feedback that we get from customers is mixed with regard to their effectiveness. One solution is to dilute the urine by quickly pouring a bucket of water over the area. If this is not practical, keeping the lawn moist by regular irrigation will help dilute the urine.

Watering after Treatments

Water in – particularly in dry weather.



Border NEW Fertilisation

Treat you plants with a professional grade product, applied by your Lawn Technician, leaving you more time to sit back, relax and enjoy your ideal garden.

We apply a professional grade, 5 month slow-release fertiliser in spring, that ensures your plants receive the essential nutrients throughout the growing season, resulting in healthy plants and a colourful display.

This introductory offer attracts a **10% discount**



Our Services

Lawn Care Services

- Annual Lawn Programmes
- Aeration
- Seeding
- Pest Control
- Growth Retardants
- Fertilisation
- Moss Control
- Top Dressing
- Soil Conditioner
- Weed Control
- Scarification
- · Disease Management
- Water Conserver

Home Services

- Border Fertilisation
- Wasp Nest Treatment
- Weed Control (Hard Surfaces)
- Gutter Clearing
- Power Washing

THE LAWNSCIENCE 100% SATISFACTION GUARANTEE



We are so confident in our people and treatments that we will guarantee each and every treatment. If you are not completely satisfied with the results of a treatment, we will re-treat your lawn free of charge.

Learning Hub

For further useful lawn related information visit The Learning Hub at www.lawnscience.co.uk/stamford

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Recommend us to your neighbours, friends and family for lawn care

and we will donate

£20 to Air Ambulance

when they take advantage of our services.



Idwnscience

We care for your lawn

For all your lawn care requirements contact Mark on 01780 764448 or call/text on 07760 618149

or email: mark@lawnscience.co.uk