LESSON 1 TURF QUALITY

Back in the 15th and 16th Century England a lawn was often a mix of grasses and flowers such as clover, thymes, chamomile providing a green low growing surface and also a place for bees to happily collect their pollen and move to other areas of gardens and orchards for pollinating. Turf based lawns date back many hundreds of years. In times past they were an indicator of a person's wealth and status, as only the wealthy could afford to maintain scythe mown grass; in most cases animals were used to keep the grass down.

By the early 19th century the mechanical cylinder lawn mower (invented by Edwin Beard Budding) meant that the large lawns become easier to maintain.

Today we have diverse equipment and sound knowledge of mowing techniques that makes mowing a lot easier compared to those earlier times.

However, there is science behind creating and maintaining a lawn or grassed area; there is a lot more to it than just keeping the grass short. Using the correct mowing techniques and other lawn maintenance practices will not only keep grassed areas looking their best, it will also contribute to their durability, persistence and longevity.

A uniform, even textured and relatively dense lawn surface.

Suggested Tasks: ▼

Throughout this course you will be provided with suggested tasks and reading to aid with your understanding. These will appear in the right hand column. Remember: these tasks are optional. The more you complete, the more you will learn, but in order to complete the course in 20 hours you will need to manage your time well. We suggest you spend about 10 minutes on each task you attempt, and no more than 20 minutes.

LEARN MORE »»»

Suggested Tasks

Throughout this course you will be provided with suggested tasks and reading

to aid with your understanding.

These will appear in the right hand column.

Remember: these tasks are optional. The more you complete, the more you will learn, but in order to complete the course in the planned time frame, you need to manage your time well. We suggest you spend about 10 minutes on each task you attempt, and no more than 20 minutes.

Poor uniformity on a lawn surface

Even with our wealth of knowledge and diverse equipment lawns can still be difficult to maintain, requiring more frequent attention and greater resources than other parts of a garden. Some people avoid having lawns so as to avoid the costs and challenges they bring. A mown surface of grass, however, is a necessary component of some landscapes - if they are to be used in the way we frequently want to use them, for example as sports fields, parks and general recreational areas.

Turf has both advantages and disadvantages:

Advantages:

- Traps carbon dioxide and generates oxygen; a mown grass surface helps mitigate the effects of greenhouse pollution.
- Filters air pollutants and dust
- Reduces erosion through flooding or water run-off; grass absorbs water more evenly and slowly than hard surfaces like paving and building roofs. Also reduces wind erosion.
- Decreases noise pollution in urban areas; this relieves and combats stress.
- Reduces the temperature in the surrounding microclimate; vegetation like grasses can modify heat sink effects. The concept of ‘green roofs’ is an off-shoot of this.
- Improves soils by creating more pore spaces for water to penetrate and trickle down into ground water reserves.
- Provides a resilient play area for sports, children and pets
- Green spaces such as grassed areas have been shown to improve health and well-being: they help people to relax and de-stress, they provide opportunities for exercise. Hospital patients with views or access to green spaces have a faster recovery time.
- Walking on grass is also less impactful on the physical body than walking on a hard surface.
- Reduces glare
- Fire prevention

Disadvantages

- Cost of maintenance – particularly mowing
- Machinery used to mow can create more carbon dioxide than is reduced if mowing is too frequent
- Increased demand on water resources for irrigated grassed areas

LEARN MORE »»

Suggested Tasks

Ask someone what the value of a lawn is to them -whether in a home garden, park or elsewhere. Consider how aware they might or might not be of the value of turf.

- Frequent mowing reduces bee population
- Reduced biodiversity of plants can reduce biodiversity of microorganisms, animals, fungi
- Nitrous oxide emissions after fertiliser application (a more vigorous greenhouse gas than carbon dioxide)

Apart from the regular mowing, watering is probably the largest expense for a lawn especially in dry rainfall and windy areas or during drought. Some turf or lawn varieties are much more drought tolerant and hardy than others. There are also types that suit sandy soils better than clays and also grow well in salty areas.

Fine, uniform, smooth turf surface

WHAT VARIETIES

Some varieties of turf will tolerate dry conditions far better than others. Often these are not the high quality grasses which we are most used to, but you should consider whether it is better to have a green lawn that looks a little different, or a dead lawn made from your preferred grass varieties. Some varieties also tolerate certain soil conditions better e.g. Tall Fescue, Bermuda grass and Buffalo grass will tolerate more clay than many other varieties.

There are lots of choices including single varieties and seed mixes. What is chosen will depend largely on the type of soil, the amount of rainfall, the climate (i.e. warm season or cool season grasses) the amount of maintenance required and the amount that people are prepared to put in. And also the region you live in.

Here are just a few varieties:

Creeping grasses such as Buffalo (native to America) and Kikuyu (a spreading warm season grass) are relatively drought tolerant.

Couch: used mainly in Australia and South Africa; most couch grasses are relatively drought tolerant, but some more so than others.

Some Australian native grasses can produce a lawn that is hardier and more drought tolerant than couch; but it is slower to establish (It is also non-invasive)

Seashore Paspalum (*Paspalum vaginatum*) (another warm season grass) is very salt tolerant, and can be watered with salt contaminated water. A variety sold under the name “Velvetene TM” is even tolerant of occasional watering with sea water.

Bent grasses and fescues such as Chewing’s Fescue and Creeping Red Fescue can withstand lower mowing than other grasses. The bent grass strains known as ‘Penncross’ and ‘Palustris’ are both stoloniferous (spreading) and tend to become spongy with age. If these bent are used alone or with fescues in a lawn, bowling green or golf green, annual scarifying, preening and coring is essential for their maintenance. In a park or sports oval these varieties of bent tend to colonise and form patches choking out all other grasses giving a very patchy appearance.

There are a number of commercially prepared mixes which are blended for specific climatic conditions and uses. Some examples:

- A blend of couch and bent grass; suitable for warm, dry climates.
- A blend of couch, Kentucky bluegrass and strawberry clover; suitable for hot, dry summer conditions.
- A high proportion of bent grass, smaller amount of Kentucky bluegrass, some fescue; suitable for colder climates.
- A Kentucky blend, with high proportion of Kentucky bluegrass, smaller amount of bent grass, some fescue; suitable for temperate and cool areas.
- A mix of bent grass, perennial rye grass; quick cover for less formal lawns in temperate areas.
- A park mix for temperate areas, with a large proportion of perennial rye grass, small amounts of couch and bent.

There are also many varieties of ready to lay ‘turf’ (rather than seed). The variety chosen depends on the climate and what is available in your region – there are many tough species that suit most conditions.

Decreased turf density on a wet, over used lawn surface