

# Quick Facts about Soil Prep

There is no better time to enhance a lawn's ultimate beauty and success than by improving the soil before any planting takes place.

## **Quick Fact:**

For optimum growth, turfgrass needs just four things (in the proper balance)...sunlight, air, water and nutrients. Reduce any of these or provide too much of any one and the grass may die or simply suffer. In the right proportions, the grass will flourish, providing beauty to the landscape and a clean and safe place to play plus many benefits to the environment.

## **Why is Good Soil Important?**

Grass obtains three of the four essential factors (air, water and nutrients) from the soil, but many soils are less than ideal for growing grass. Some soils contain too much clay and may be very compacted.... great for roads, bad for grass, because air and water aren't available to the roots and they can't grow. Other soils may have too much sand....beautiful on a beach, but difficult to grow grass because water and nutrients won't stay in the root zone long enough for the plant to use. Another frequently observed problem with many soils is that its pH (the degree of acidity or alkalinity) is too high or too low for optimum growth.

## **Quick Fact:**

Loams, sandy loams and loamy sands, with a pH of 6.0-7.0 are the very best soils for producing a beautiful, high-use, low-maintenance lawn. Unfortunately, this ideal soil mixture is seldom found on any property after construction.

## **Quick Fact:**

The absolute minimum quality soil depth for a care-free lawn is 4 inches (10cm); however, for deeper root penetration and the benefits that that brings, the accepted standard is 6 inches (15cm).

## **Quick Fact:**

Practically without exception, not only can most soils be improved, they usually need to be improved to get the maximum results with only a minimum of on-going effort. The knowledge of what's necessary, the amount and availability of materials and the immediate costs of time and money are the factors that typically deter people from taking the steps necessary to improve the soil. The fact is that failing to improve the soil before planting is only inviting a much greater and continual investment of time and money that will never return its value as fully as good preparation.

## **Step-by-Step Site Preparation**

"The beauty is in the blades, but the 'action' is in the roots," is a good adage to remember when growing grass.

Thus, the value of proper site preparation and soil improvement, before any planting takes place, is that it will be easier for the grass roots to penetrate deeply and evenly. Deep roots will make the lawn more drought resistant, a more efficient water and nutrient user and more dense as new grass plant shoots emerge. A dense lawn crowds out weeds and better resists insects and disease.

Follow these simple steps for a beautiful, healthy and trouble-free lawn:

1. Clear the site of all building materials (wood, cement, bricks, etc.) as well as any buried stumps, rocks, stones or other debris that are larger than 2-3 inches (4-5cm) in diameter.

2. Rough grade the entire area to eliminate any drainage problems on the property. This would include sloping the grade away from building foundations, eliminating or reducing severe slopes and filling low-lying areas. A tractor mounted blade and/or box are most often used for rough grading, but if the areas small, it can be done with hand tools. The rough grading will probably uncover more debris that should be removed and not buried.
3. Initial tilling to a depth of at least 2 inches (5cm), should be completed prior to adding any topsoil or soil amendments. This will control most annual weeds, alleviate subsoil compaction, permit a bonding of the topsoil to the subsoil and improve root penetration as well as air exchange and water movement.
4. Add topsoil to achieve a total topsoil depth of 4-6 inches (10-15cm), after firming. The topsoil should be a loamy sand, sandy loam, clay loam, loam, silt loam, sandy clay loam or other soil suitable for the area. To the extent possible, practical, affordable and available, incorporate humus (fully decomposed organic matter) into the topsoil.
5. Test the soil pH with a chemical soil test to determine if any pH correcting materials are required. Acidic soils (pH of 6 and below) can be improved with the addition of lime. The type (or source) and total amount of applied lime will be determined by the level of acidity and should be based on the recommendations of a reliable garden center, turf professional or soil scientist. Alkaline soils (pH of 7.5 and higher) can be improved with the addition of sulfur or gypsum. As with acidic soil correcting materials, the type and total amount of materials will be determined by the level of alkalinity and should be based on a professional's recommendations.
6. Apply "starter fertilizer" that is high in phosphate ("P" or the middle number on a bag of fertilizer), at a rate recommended for the particular product. To avoid root injury to the newly installed turfgrass sod, the fertilizer should be raked into the top 3-4 inches (7-10 cm).
7. Finish grade the entire site, maintaining the rough grading contours and slopes, with a tractor-mounted box blade for large areas or a heavy-duty rake for smaller sites.
8. Roll the area with a lawn roller one-third full of water to firm and settle the surface. Low spots revealed by this step should be filled to match the surrounding grade surface. If time permits, allow the area to settle further with rainfall or be applying irrigation water.

The site is now ready for turfgrass sod. With this degree of careful and thoughtful soil and site preparation, the resultant lawn will be absolutely beautiful. It will require less maintenance...smaller quantities of water, fertilizer and pesticides...as it maintains a high degree of density and recovers rapidly from wear.

Information contained in this guide was compiled by Turfgrass Producer's International, an independent, not-for profit association.