

## Soil Preparation for a Beautiful Sodded Lawn

There is no better time to enhance lawn's ultimate beauty and success than by improving the soil before any planting takes place. Placing sod on poorly prepared soil is comparable to building an expensive house on a poor foundation. Problems can continue for years.

### **Benefits of Proper and Complete Soil Preparation**

- Improved Uniformity
- Increased Density
- Faster recovery from wear
- Reduced Use of water, fertilizer, & chemicals
- Reduced Maintenance

### **Quick Fact: Why Is Good Soil Important?**

For optimum growth, turfgrass needs just four things (in the proper balance) to grow...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 not only beauty to the landscape, but also a clean and safe place to play and many benefits to the environment.

Grass obtains three of these 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 the roots 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 grass growth.

### **Quick Fact: What Is The Best Soil For Turfgrass?**

Loams, sandy loams and loamy sands, with a pH of 6.0 to 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: How Deep Should the Soil Be For Turfgrass?**

The absolute minimum quality soil depth for a care-free lawn is (4 inches); however, for deeper root

penetration and the benefits that brings, the accepted standard is (6-8 inches).

### **Quick Fact: Can Soils Be Improved?**

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 other 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 improving the soil. While some people do not fully understand the importance of good soils for grass, many also believe they can save time and money by ignoring the need to improve their lawn's soil.

The fact is that failing to improve the soil before planting is only inviting a much greater and continual investment of both time and money, that will never return its value as fully as preparing the soil properly before planting any grass.

### **Site Preparation Steps**

"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 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 is larger than (2-3 inches) 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 area is smaller, 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 4 inches, should be completed prior to adding any topsoil or soil amendments. This will control most annual weeds, alleviate subsoil compaction and permit a bonding of the topsoil to the subsoil and improve root penetration and water movement.
4. Add topsoil to achieve a total topsoil depth of (6-8 inches), 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 correction materials are required. Acidic soils (pH of 6 and below), common for North Carolina, 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 soil test recommendations. Take soil samples from the front yard and the backyard to determine soil pH and nutrient requirements. A single soil test may be all that is necessary if there are no obvious differences in soil texture, terrain, or troubled areas of the front yard and backyard. If the soils seem different, collect soil samples to a depth of 3 to 4 inches from several (10 to 15) locations and mix them together to produce a composite sample. Send approximately 1 cup of the air-dried soil sample to the NCDA & CS Agronomic Division Soil Testing Services, 1040 Mail Service Center, Raleigh NC 27607. Boxes and forms can be obtained at your county Cooperative Extension center or at the Agronomic Division office in Raleigh. Allow several weeks for the results to be returned.

Alkaline soils (pH of 7.5 and higher), can be improved with the addition of sulfur. As with acidic soil correction materials, the type and total amount of materials will be determined by the level of alkalinity and should be based on soil recommendations.

6. Apply "starter fertilizer", i.e. one that is high in phosphate (P, or the middle number on a bag of fertilizer), at a rate recommended for the particular product. To prevent root injury to newly installed turfgrass sod, this fertilizer should be worked into the top (4-6 inches).  
Finish grade the entire site, maintaining the rough grading contours and slopes, with a tractor-mounted box blade on large areas or heavy-duty rake on smaller sites.
7. Roll the area with a lawn roller one third full of water to firm and settle the surface and reveal any low spots that should be filled to match the surrounding grade surface. If time permits, allow the area to settle further with rainfall or by applying irrigation water.

This site is now ready for turfgrass sod. With this degree of careful and thoughtful soil preparation, the resultant lawn will be absolutely beautiful and require less maintenance, smaller quantities of applied water, fertilizer and pesticides, as it maintains a high degree of density and uniformity and recovers much more rapidly from wear. For years to come, your investment in soil preparations will yield a high return.