

# Lawn Care

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PUBLISHED IN FEBRUARY, MARCH, APRIL, AUGUST AND SEPTEMBER BY  
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Tenth Year

Number 46

## ABOUT SOILS

A DESIRABLE soil is the first requisite for securing and maintaining a good lawn. It is the mechanical consistency of soil and not its richness that is of basic importance. If the texture and structure of a soil are good, food to insure vigorous growth may be easily supplied through the use of the right lawn fertilizer.

### How To Classify Soils

The texture of a soil is determined by the size of the particles which dominate it. These particles may be coarse, medium or fine. The coarser ones are gravel and sand, the finer ones are silt and clay. Individual particles of gravel and sand are easily distinguished by the eye; those of silt and clay are not.

The heavier or clay soils have the characteristic of being poorly drained, which causes them to dry out slowly and bake hard after drying. Lighter or sandy soils are just the opposite, permitting rapid drainage thus drying out very quickly and remaining loose.

### Best Soil Type

The ideal lawn soil is a mixture of these various particles in such proportions as to produce a loam or silt loam soil. Such a soil is of a friable nature that works readily. It is usually dark brown to black in color, depending on the quantity of humus present and the color of the minerals from which it originated.

Soil color is often deceiving. Since humus imparts a dark color to soils many people have the erroneous idea that all dark soils are good. Some of

the blackest soils are worn-out muck soils such as are found in drained swamp lands. They are usually very powdery when dry, not having the body necessary to support healthy grass.

Soils of heavier texture than a loam will produce good lawns if the subsoil is not too clayey or poorly drained. Such soils must not be worked or rolled when wet else they will puddle or pack and be worse than before.

It is possible to produce good turf on sandy soils. To do that it is necessary to water frequently during dry seasons, possibly every day. Frequent applications of fertilizer are also necessary because the plant food elements are rapidly washed away in the drainage water.

### Improving Soil Texture

Any given soil of poor texture can be improved by mixing with it sufficient quantities of soil of contrasting texture.

For example, 15% to 20% by bulk of clay added to a sandy soil and thoroughly mixed with it will produce a much better texture. This clay helps to make a more compact soil with a greater moisture holding capacity.

Because of the difference in size of the soil particles a given volume of clay will have a much greater modifying effect on sand than the same amount of sand will have on clay. To make any appreciable change on a heavy clay soil it is necessary to incorporate with it from 40% to 50% by bulk of coarse, sharp sand. Even then the soil will retain its clay character.

If clay is to be used to improve a

sandy soil it should be spread evenly to a depth of one-half to three-quarters of an inch and then thoroughly mixed into the upper four inches of soil. In contrast if sand is used to modify a heavy soil as much as 1½ or 2 inches must be used to effect any real change.

### Adding Organic Matter

Another component of soils, at least of better soils, is partially decayed organic matter called humus. It tends to hold moisture and plant food and to improve the structure of the soil particles. The best soils are those liberally supplied with humus.

Humus helps to lighten heavy soils and permit a freer circulation of air and moisture. It also improves sandy soils by tying the sand particles together, thereby increasing their water holding capacity. Under these ideal conditions plant food in the soil undergoes the proper chemical change that makes it available to the grass.

There are several good sources of organic matter. Some of the best are the green manuring crops. Rye sown in the fall at 120 pounds per acre and turned under in April, when green and succulent, will add considerable humus. A crop of soybeans sown in late spring at 120 pounds per acre, will add a substantial amount of humus. They should be turned under about August 1 while green and the area cultivated for about a month. This allows sufficient time for decomposition and for the seed bed to settle before fall seeding.

It is very important in incorporating any organic matter, to get it thoroughly mixed with the soil so that no layers or pockets are formed which might interfere with free water movement.

### Improving The Soil Under Established Turf

Turf on some lawn soils often does sufficiently well so that even though the soil is not ideal, digging up the area to change soil texture is not justified. Frequent topdressing will be of help in such cases if the material used is of proper texture. The best topdressing is compost which has been made in accordance with the directions given in a previous issue of *LAWN CARE* (No. 3).

Established lawns on heavy soils can be improved by puncturing with a spiked roller or tamp and brushing coarse sand and humus into the holes.

### Securing Weedfree Soils

Soil for a new lawn or for topdressing an established lawn should be selected carefully so that it is at least reasonably free from weeds. It is wise to inspect the source of supply. A garden area that has been cultivated for years is quite free from weeds while an area covered with all kinds of wild growth should be eyed with suspicion. Whenever there is any doubt, obtain a sample of the soil sufficiently in advance to place it in a flat box where it can be kept moist and warm for two or three weeks or until any seeds present germinate. The type and quantity of weeds should be noted as they sprout.

### Reference Bulletins

Since the original release of this bulletin, the sources of organic matter such as manure, peat, muck and mushroom soil have been discussed in detail in *LAWN CARE* Number 59. Other *LAWN CARE* bulletins for handy reference on subjects related to soil are:

|                   |           |
|-------------------|-----------|
| Topdressing ..... | Number 3  |
| Liming .....      | Number 48 |
| Fertilizing ..... | Number 64 |

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