Lawn Care

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TO LOVERS OF BEAUTIFUL TURF

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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 is good, food to provide health and vigor may be easily supplied through the use of the right commercial 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.

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.

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 even when wet. 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.

Since humus imparts a dark color to soils many people have the erroneous idea that all dark soils are good. Some dark soils owe their color to certain minerals and may contain little or no humus. Some of the blackest soils are worn out muck soils such as found in drained swamp lands. They are usually very powdery when dry.

Soil color is often deceiving. Many soils that are ordinarily light brown or red when dry have the appearance of a dark, rich soil when wet. It is not a good idea to judge a soil by its color when it is moist.

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 when wet else they will puddle and pack and be worse than before. For the same reason clay soils will be damaged if rolled with a heavy roller.

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 be-

cause the plant food elements are rapidly washed away in the drainage water.

Improving Soil Texture

In building a new lawn, the native soil type must ordinarily be utilized. Often it is not desirable but it may be made more suitable with some alterations. When attempting to modify soil texture it is important to: (1) identify the existing soil type, (2) select the proper material to change it.

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

The mechanical nature of a soil can be determined by a simple experiment. Take a sample of the soil, wet it thoroughly and roll into a ball exerting as little pressure as possible. Allow it to dry a couple of days under normal room conditions. Then drop the ball to a hard surface from a height of three feet. If it crumbles readily it can be considered of good mechanical consistency. If it remains intact there is too much clay in it. If it goes all to pieces or crumbles in the hand there is too much sand.

Adding Organic Matter

Even though a soil is of the proper texture it must contain organic matter if it is to be of value in the production of a good lawn. It is the lack of this decaying organic matter called humus that makes subsoil undesirable for grass growth. Often valuable topsoil is buried or carted away during excavating operations for a new home. Cellar dirt, usually stiff, heavy, inert clay should not be thrown over good topsoil. If it is necessary to raise the grade of a lawn, the topsoil should be moved to one side, then the subsoil added and the topsoil later placed back over it.

Humus tends 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.

Ordinary farm manure is an excellent source of organic matter. It will greatly improve soils if applied at the rate of one-half ton or one cubic yard to every 1000 square feet. Its chief disadvantages are its inevitable content of weed seeds and its scarcity.

Peat is another well-known source of organic material. Imported peat seems better for soil improvement as it decomposes more readily than domestic peat since it is made up of mosses rather than a mixture of roots, twigs and leaves. It is best to allow about a month for the peat to decompose in the soil prior to the time of seeding. If this is not possible the bales of peat may be opened and exposed to the weather for several weeks before use. This is important because baled peat is very dry and if mixed into the soil in that state it will have to pull the needed moisture out of the soil.

To bring the humus content up to a desirable amount, 15% to 20% of peat by volume is required. In preparing the soil to a depth of 4 inches, a one inch layer of peat should be spread over it and mixed thoroughly into the soil. One bale of peat covers 300 square feet one inch deep.

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.

Muck is an advanced stage in the decay of domestic peat. Where available cheaply, it can be used in the same manner as recommended for incorporating peat, provided it is not toxic.

Spent mushroom soil is a mixture of horse manure and soil which has been used in a mushroom bed for about a year. It has about the same value as ordinary farm manure, is free from weeds and has a good texture. In the eastern states where it is available in large quantities, it can be used for soil conditioning by working 500 to 1000 pounds per 1000 square feet into the upper four inches of topsoil.

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 topdressings 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.' It is not advisable to use pure peat, sand or clay as these may form layers which interfere with the movement of moisture.

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

Fertilizing Lawn Soils

While this discussion is devoted mainly to the mechanical characteristics of soils, it would hardly be complete without a word about soil chemistry.

Three of the important plant food elements are lacking in practically all soils. Fortunately these can be provided readily by using the right fertilizer.

A complete fertilizer composed of both minerals and organic matter is the most satisfactory type. The minerals have a stimulating effect in getting the grass off to a good start and the organic portion provides a long lasting source of food.

Liming

In addition to fertilizers, some soils need lime or limestone to decrease soil acidity. While most of the desirable lawn grasses will grow well on slightly acid soils it is sometimes necessary to use lime in extreme cases. Since an excess of lime may encourage weeds, it should be used only after a soil test definitely indicates a need for lime.

Soil Testing Service

In case there is any doubt about your soil we will gladly test samples without charge. These will be checked for their lime requirement and you will be advised concerning their mechanical nature.

Samples should be truly representative of the soil. It is well to take six or eight separate samples from different locations to a depth of two or three inches and mix them thoroughly. Send us about a half pint, carefully labeled.

Fall Seeding Best

"In answer to your general inquiry in 'Lawn Care' you might be interested in my experience concerning fall versus spring seeding of lawns. I have a small lawn which is mostly quite shaded. In April, 1935, I seeded it with your Shade Mixture and during my absence on vacation in July, 1935, it almost completely died due to lack of sufficient moisture accompanied by high temperatures. I reseeded it with your Shade Mixture on Labor Day, 1935. I obtained a relatively good stand of grass which was mowed several times before freezing weather and which lived through the winter. While it now requires some reseeding it is still one of the best lawns in the neighborhood. I am told that previous to my occupancy of the house that no one had been able to maintain a lawn."—L. I. Shaw, 326 North Grove Avenue, Oak Park, Illinois, September 18, 1936.

Canadian Volunteers Weedless Lawn Recipe

"I read all your 'Lawn Cares' with great interest. Speaking of weed pests in the lawn, looking back over sixty years' experience, I know of but one SURE cure. Crippled knees, aching backs and grim resolution. Granddad used to remark that persistence will conquer most anything. I know it will weeds but it's a tough battle until you obtain a stand of grass so thick the weeds can't get a toe-hold."—L. Gerard Smith, c/o Vapor Car Heating Co. of Canada, Ltd., 61-65 Dalhousie Street, Montreal, Quebec, Canada.

Scott Literature

Lawn Care—You are reading the 46th issue. If your file is not complete, any missing issues may be had for the asking. A full set of bulletins in stiff paper binding will be sent for 25c to cover mailing cost.

Binder—An attractive imitation leather ring-binder, mechanical pencil attached, containing all bulletins, index, condensed issue of "Lawns," graph paper for charting your lawn, and with capacity for several years to come—$1 postage paid. For 20 cents additional, you may have a name gold-stamped on the cover.

Bent Lawns—A practical discussion of the most beautiful of all lawn grasses. Tells how to plant with either seed or stolons. Many natural color illustrations. Free.

Lawns—The amateur gardener's guide to better lawns. Condensed but very complete information on soils, fertilizing and seeding. Free.

Campus and Athletic Field—Sixty pages of data that will be especially helpful to those building or caring for large turf areas. Postage paid 25c.