



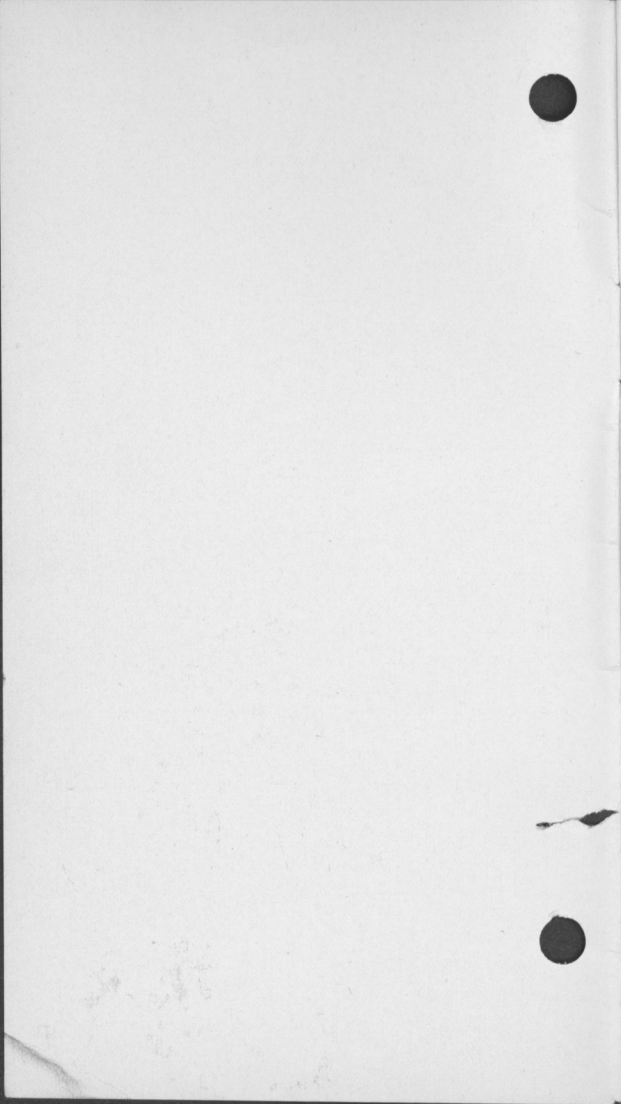
Lawns

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LAWNS



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Making Lawns

THESE five important considerations enter into the making of a lawn: reasonably good soil, proper drainage, a well prepared seed bed, and sowing suitable seed at the most favorable time of the year. We shall endeavor to give each subject adequate treatment.

Removal of Excess Water

PROVISION should be made to dispose of surplus water through one of three methods: tile drainage; a fill in of several inches of gravel, cinders, or coarse sand placed six inches or more below the surface; or by the mixing of sufficient sand with surface soils that contain considerable clay so are apt to be compact, baked and hard during dry weather. This will insure a more pliable condition and permit natural drainage. Plants must breathe and drainage is to most soils what an open window is to a poorly ventilated room. Drainage permits fresh air to penetrate the soil.

Though seldom mentioned in this connection, over-drainage is often the cause of injury to lawns. Gravelly and sandy sub-soils coupled with a light sandy top soil permit the escape of water so rapidly that moisture cannot be held for future use and the plant foods, in solution, are carried away. With such soils a liberal amount of either clay or humus in the form of manure or any similar material may be used.

Top Soil

WHEN building for a permanent lawn, remember that grass grows down as well as up. Too much care cannot be taken to make soil conditions just right. The top soil will surely need enriching. An essential condition is the presence of abundant humus. Humus is partially decayed organic matter. Nearly all reasonably fertile soil contains the essential plant food elements, nitrogen, potassium and phosphorus, but these elements are not available as plant food unless an amount of humus is present. Humus acts as a sponge, retaining the moisture of the soil during dry periods. It also promotes the chemical action necessary to make the plant food elements in the soil available to the plant.

To increase the humus content, mix with the top soil a generous amount of stable manure, thoroughly rotted so that the weeds are killed. Other possibilities if manure is not obtainable are German peat moss, leaf mold, or woods earth to which a complete fertilizer may be added.

Establishing the Grade

ON account of building operations the ground about a house is likely to be in an unfavorable condition for the making of a lawn. A fine turf cannot be raised on excavated subsoil. Such earth should be removed to a depth of six inches below the proposed level. It should then be replaced with good top soil

and manure or one of the substitutes mentioned in the preceding paragraph. If the surface level admits of raising, the top soil may be merely added and the labor of removal at least partially saved.

If there is already a good top soil, remember that it is of great value. In grading, have it scraped to one side so that it may be replaced after leveling the subsoil. Do not cover good top soil with subsoil.

In leveling and grading, do not depend upon the eye. Drive stakes near the building and on the edges of the lot and stretch a strong cord between them at a certain height; the cord can be removed when using the roller and conveniently replaced. By placing the stakes at intervals of about ten feet apart along each side of the lawn and stretching cords between them, a uniform grade will be more easily obtained.

The good top soil should be from four to six inches deep. If the original top soil is poor or shallow, rich soil should be added. The surface soil should be deeper over a heavy clay subsoil than over one that is loose or sandy. Soil obtained from a cultivated field or a good garden loam is the best, as it will be full of humus and contain few weeds.

Soil Preparation

SOIL is of various textures ranging from coarse to fine, as gravel, sand, and clay. These three words refer to the size of the soil particles. A loam is a mixture of soil particles

of various sizes, and may be known as clay loam or sandy loam as those elements predominate. A rich loam is a loam with a large humus content. Soil which tends toward pure sand or pure clay is hard to work and requires the addition of soil of another texture. A tenacious clay soil may be greatly improved by incorporating sand in the top soil. The sand should be applied to a depth of several inches and carefully worked in. This breaks up the clay and permits the circulation of air and water. Lime helps heavy clay soils by making them more crumbly.

The surface soil should be raked and rolled until the upper inch, in which the young plant will get its start, is as fine as ashes. During this process all stones, sticks and other debris should be removed. This fine upper inch acts as a blanket for the coarse soil beneath, prevents the escape of moisture through cracks, and assures quick germination.

Have all the top soil mellow, but made firm by rolling. Rolling both ways reveals inequalities of the surface easily adjusted by use of the rake. Hollows are likely to hold water and so prevent germination, drown out the young plants, or cause the mature grass to be killed by alternate freezing and thawing in the winter. Rolling makes a firm seed bed and allows the soil fluids to be brought up by capillary attraction.

Frequent raking ventilates the soil, and, more important still, kills the young weeds as they

erout. All soils are naturally full of seeds of indigenous weeds. If some time is taken for preparing the soil and the raking is done as the weeds come up, all surface weeds will be killed and conditions for a good growth of grass will be much improved. Weeds that are deeper in the soil will take a longer time to germinate than the grass, and will be choked out, providing seed is sown that is capable of producing a strong, vigorous growth.

Important as it is to prepare a good seed bed and provide for adequate plant food, all is lost unless the right kind of seed is sown. Upon the seed you select must rest the responsibility of producing the grass. If you choose your seed haphazardly, giving more thought to convenience in buying and price than you do to quality, you have jeopardized the success of the venture.

Seeding

LAWN seed should be sown on a calm day. Sowing can be done more uniformly if the seed is divided into two equal parts, one part being sown north and south and the other part east and west, with the hand rather close to the ground. It is not a bad plan to mark off the lawn in four or five foot strips, sowing one at a time. A thick stand of grass chokes out the weeds, a thin stand gives them an opportunity to establish themselves. It does not pay to sow sparingly. About 150 to 200 pounds per acre should be used in making a new lawn. On a

small plot where there is shade from trees and houses, four to six pounds per 1000 square feet is not too much for a first sowing.

Seed may be sown at any time except during the winter, but an early fall seeding is undoubtedly best. The weather is then cool and there is likely to be more rainfall. Under such conditions turf grasses extend their roots and stool, that is, send out new shoots from the lower joints of the plant. Grass sown in the spring is likely to form a scattering growth, leaving spaces between the plants for the invasion of weeds.

After sowing, the surface should be carefully and lightly raked to cover the seed. Next use the roller.

We do not recommend the sowing of a nurse crop, as oats or rye. The removal often has a bad effect on the young grass, and in a dry season it absorbs moisture needed by the grass. However, in sowing banks or terraces, oats or rye may be used to advantage as they bind the soil and prevent washing while the grass is getting started.

Weeds are hardier and more prolific than some plants which have been bred to such a high point that they have less resistance. Weeds have had to fight their own battles for ages, conquering drouth and the elements, and defying man to prevent their travel around the globe.

Weeds know how to fight and propagate themselves. Nature equips the perennials with deep and spreading roots that resist the severest weather, and the annuals produce thousands of seeds each year.

Nature abhors waste spaces. If bare spots are left on the lawn, she immediately covers them with weeds. Such spots become nurseries for the robber plants, and should be sown with good seeds as they appear.

Maintaining Established Lawns

When once established good lawns require a certain amount of care to keep them at their best. Grass is confronted with many handicaps. For instance the amount of rain that falls during the course of a season supplies much needed nourishment but at the same time it may wash away a certain amount of plant food which must be replaced. Likewise there is a constant stream of fertility passing through the grass blades and being removed in the clippings. It is the same principle as harvesting a crop from a certain piece of ground as many as fifteen to twenty-five times during a single year.

When the new grass is two or three inches tall, it should have its first clipping, with the mower blades set high. Grass should never be allowed to grow much taller than this, as vitality is taken from the roots and their growth, if retarded, prevents the formation of a thick sod. It is a mistake to let grass go to

seed; nothing is more harmful to the lawn. Mowing should be done regularly although in extremely hot weather the cutting may be lighter. Frequent mowing causes the plants to spread or tiller out. It is unnecessary to remove the cut grass unless it has been allowed to grow too long, or the weather is extremely wet. After the first mowing a light roller may be used to good advantage. A new lawn needs rolling frequently to make the roots as firm as possible. Just prior to freezing weather it is a good plan to let the grass get fairly long, say three or four inches, as some extra protection will be given the roots through the winter months.

Feeding Lawns

FOOD for the grass may be supplied through top dressing in the form of either manures or fertilizers. Manures are organic humus-forming materials in the process of decay. Fertilizers are substances containing plant food elements in a readily soluble form. Organic fertilizers are more desirable than all chemicals as their effect is more lasting and they improve the texture of the soil by the addition of humus.

In applying fertilizers to established turf the rate of application recommended by the manufacturer should be followed. In order to keep grass vigorous and healthy it should be fed with the proper plant food at least twice during the year.

Sprinkling

CONSTANT watering may cause the soil to become sour, and prevent the chemical action by which food elements are made available for the plant. During normal weather very little sprinkling is necessary. Frequent light sprinkling brings the roots to the surface for moisture, where they may be injured by the hot sun. Nature's plan of a thorough wetting at intervals is better. One good soaking a week is usually sufficient, a good plan being to set the hose at one place and let the water flow freely on this one place for about an hour. This causes the roots to go down deeply, as they should. The subsoil rather than the top soil should be full of water.

Shaded Lawns

THE roots of trees draw moisture from a considerable distance and so rob the adjacent lawns of both moisture and fertility. This characteristic of trees often works more injury to lawns than their shade, and suggests that the soil under trees must constantly be fed with fertilizer and manure. Seed should be sown frequently in shady spots.

A mixture for shady places should be composed of such grasses as grow naturally in woodlands.

Renovating Lawns

It is next to impossible to take an old lawn that was originally made on poor soil and per-

haps sown with inferior seed and expect to build it up to a state of perfection. No amount of top-dressing with manure, fertilizer or rich top-soil will produce entirely satisfactory results. A quicker and better method would be to remake the lawn entirely.

Fall is the best time for making over a lawn. The work may be started during the latter half of August and the place will not be torn up for very long, furthermore, there will be a new lawn to greet you in the spring. Tear up the old turf to a depth of six or eight inches and add at least two inches of new topsoil. If the existing soil has been heavy clay an application of sand or sifted ashes will be found helpful. Furthermore, if the top soil you have applied is not particularly rich you may build it up by an application of thoroughly rotted manure or a complete fertilizer. Seed may be sown any time between the middle of August and late fall. If it becomes necessary to seed in the spring this should be done as early as possible to give the young grass a chance to become established before the hot dry weather of summer. Use four to six pounds of seed per 1000 square feet.

Lawn Improvement

MANY lawns are in such condition that they can be put in excellent shape if an intelligent program of maintenance is carried on. The practices of fertilizing, mowing and watering, outlined in preceding pages of this booklet, will do much to improve the lawn that

has been neglected. Other recommendations are as follows: Dig out the weeds as far as it is practicable, scratch the surface vigorously with a sharp rake, first perforating the soil and sod with a forked spade if it is hard and compact. Bare spaces should be spaded up and a new seed bed prepared. The addition of about an inch of top-soil will be found very helpful to the existing grass and will also provide a better germinating layer for reseeding. To this top-soil may be added, good complete fertilizer, preferably one containing at least 50% organic matter. The amount of seed to be used will of course depend upon the number of bare spaces and the thickness of the present grass. Ordinarily two or three pounds of Lawn Seed per 1000 square feet will be ample. After the re-seeding has been done, rake and roll the lawn.

If a lawn is infested with many weeds they should be removed if possible, either by hand digging or using some sort of chemical especially prescribed for the purpose. After digging out a weed it is a good plan to fill in the bare spot with fresh soil mixed with seed. A convenient way of doing this is to mix one pound of seed in a bucket of soil and use it where the removal of weeds has left holes.

Weed and Pest Control

Weeds may be classified according to the length of time they live, as annuals, biennials, and perennials.

The annual, growing from seed, produces flowers, bears seed and dies all within a year. The biennial lasts two years. Perennials propagate themselves by seeds and by roots which stay in the ground for years. Annuals should be prevented from seeding and perennials from forming new leaves, roots and underground stems.

Plants take in much of their food through the leaves. The perennials, such as dandelion and plantain, store some of this food in their large, fleshy roots. The first growth in the spring, particularly of the flowering stem, draws on this supply of nourishment. The plants are then in their weakest condition and should be attacked when in full bloom before the seed has time to mature and the plant has begun to replenish its food supply.

Some weeds will produce a million seeds in one year, so one of the most important means of getting rid of weeds is to prevent their seeding.

The Dandelion

THIS is usually the first spring arrival. It is the commonest and one of the most difficult perennials to kill. Cutting the plant, even below the surface, may cause the crown to be split and several new plants to spring from the old roots. If a tablespoonful of salt or gasoline is applied where the root is cut off, the dandelion will die.

Another means of combat is to use one pound of Iron Sulfate in a gallon of water and spray it on each 250 square feet of dandelion infested area. The lawn will be temporarily blackened by the spray, but not injured. Four or five applications are necessary. The first one when the plants are in bloom the first time, just before they go to seed, followed by two applications two or three weeks apart and another one later in the summer. Do not get any of this solution on stone masonry or clothing as it will leave an ugly brown stain. (Rinse the sprayer after use.)

Chickweed

OF the several varieties of Chickweed, Mouse-ear is the most common. It is a dark green hairy plant with a white flower and hairy leaves which grow in pairs. It spreads by root-stocks and can be killed best by digging out the entire patch. Large patches of Chickweed can be killed by one or two applications of Lead Arsenate applied as a dust, sufficient to produce a whitish cast over all the leaves. This treatment will not injure turf.

Moss

THE presence of moss may be an indication of inadequate drainage or poor soil. Drain if necessary, rake thoroughly, and fertilize with top-dressing. Lime is commonly supposed to be beneficial. It will stimulate Blue Grass and

White Clover but must not be depended upon to eradicate moss, for moss grows freely on neutral as well as acid soils. Spraying with a five per cent solution of Iron Sulfate, followed by sprinkling several times with a three per cent solution of Nitrate of Soda helps to kill moss. Moderate applications of Sulfate of Ammonia are recommended by an experienced greenkeeper. Impoverished soil is a common cause for moss and may be remedied by adopting a program of fertilization so the ground may be systematically built up.

Crab Grass

THIS weed pest becomes a greater problem every year. There is none worse nor more difficult to eradicate. The name is suggested by the flowering spikelet which is supposed to resemble the claw of a crab. Although an annual, it cannot be gotten rid of by close clipping, many of the stems growing so near the ground that they are missed by the mower. Thus the plant reseeds itself. The seeds are very small, there being more than a million to the pound. Besides propagating from seed, it roots from stem joints that touch the ground, so that a single plant may cover considerable space.

In some sections Crab Grass is known as "Finger Grass." It is also called "Summer Grass" and "Fall Grass" because it does not start growth until hot weather and is most noticeable in summer or early fall. It is killed by the first frost, turns brown and leaves un-

sightly patches, which, however, are usually soon replaced by the perennial grasses such as Blue Grass. Because it is particularly noticeable in hot, dry seasons when much water must be artificially supplied, some call it "Water Grass," thinking that it is caused by sprinkling. In dry seasons it often seems to take possession of a lawn overnight.

Nearly everything has been tried in an effort to find some treatment that will eradicate this pest, but, thus far, nothing but hand-pulling has been successful. This should be done when the plants are small.

Crab Grass will quickly gain a foot-hold in thin stands of grass or on bare spots. The thickest turf contains the fewest Crab Grass plants!

Ants

ANTS' nests make unsightly spots in the lawn. To kill them, drop Paris Green mixed with sugar around the nests or inject carbon bisulphide into the holes with a common machine oiler having a long spout and then cover the hole. A heavy gas is formed which permeates the nest. Remember that this chemical is explosive. Potassium Cyanide (this is a deadly poison) may be used effectively in the same manner. Dissolve one ounce of ninety-eight per cent Potassium Cyanide in one quart of water.

Earthworms

THE appearance of lawns is sometimes all but ruined by common earthworms which come to the surface at night and leave their casts. They can be poisoned, Corrosive Sublimate (Bichloride of Mercury) being effective. This substance is a virulent poison and should be handled carefully. For each 250 square feet of lawn, mix one ounce of Corrosive Sublimate with six pounds of sand, scatter over the surface and soak with the hose. The worm colony migrates to the surface and few of them get back. One must not expect that a single application will suffice for the season.

One of the newer methods of eradication is to apply Arsenate of Lead at the rate of five pounds per 1000 square feet of area. This should be mixed with sand before applying and watered in afterward.

This small booklet will not permit a further discussion of lawn problems but we shall be glad at any time to enlighten those who have other grass-growing difficulties not herein described.

Other Scott Publications



LAWN CARE—A four-page bulletin published 5 times yearly. It brings you timely hints and new ideas on lawn making and maintenance.

Weeds are described in detail with methods for their eradication. Future issues mailed without charge. A complete, indexed file of all previous issues in a paper cover will be sent for 10c or in a loose-leaf binder for 50c to help pay mailing and handling costs.

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