

Planting and Care of The LAWN

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UNIVERSITY OF KENTUCKY
College of Agriculture and Home Economics
Agricultural Extension Service

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Circular 381

(This circular is a revision of Circular 256)

THE COVER: A good well-kept lawn is one of the main attractions of a good-looking place. White Dutch Clover, showing in this lawn, is an excellent companion crop for bluegrass, for it makes the turf heavier and helps create favorable soil conditions for the bluegrass.

Planting and Care of the Lawn

By N. R. ELLIOTT

A good lawn, well kept, is indispensable to attractive home surroundings. The lawn is the setting for the home; if it is rough, weedy and poorly kept, the home will never appear attractive. A good lawn not only enhances the beauty of the home setting, but it partly makes up for lack of shrubs and trees. An abundance of shrubs and trees, no matter how well selected and beautifully trimmed, will not remove the blemish of an unkept lawn.

Nature alone, except in the most favorable circumstances, cannot produce and maintain a lawn that will be a constant source of pride and pleasure. Making and maintaining a good lawn requires work, and many difficulties such as weeds, bare spots, trees robbing the grass of moisture and plant food and injuring it by shading, will be encountered. On account of the hot, frequently dry summers, and open, snowless winters in Kentucky, the maintenance of a good lawn is more difficult than in some other sections of the United States. However, in spite of these conditions, it is possible, in most sections of Kentucky, to have a good lawn.

MAKING A NEW LAWN

Grading.—Establishing a satisfactory grade is the first consideration in making a new lawn. Often, when a new home is built, the owner is so anxious to get something growing on the lawn that little or no time is given the question of grading. This practice is a mistake for a proper grade is a basic requirement for the best crop of grass. The slope or grade of the lawn should serve two main purposes; first, it should be pleasing to the eye, and second, it should carry the water away from the house and off the lawn. In making the grade, two fixed levels usually are to be considered: one at the foundation of the house, and the other at the drive, curb, or the place where the front yard fence will be located. With these two levels fixed, the lawn can be graded so that it is smooth, but not necessarily level; in fact, there should always be some slope from the house, and in most places the lawn should slope considerably to blend into the surrounding area. If possible, avoid terraces or abrupt changes in the slope, for they are not only difficult to construct, but by their very nature they dry out so easily that during the summer the grass on them often becomes brown and sometimes dies.



This lawn has a very pleasing grade that leads up to the home. After the trees and shrubs are grown this should be a beautiful place.

Drainage.—Wet soil is not satisfactory for growing grass on the lawn because the dense, fibrous roots of lawn grasses will decay when subject to an excess of moisture. The wet soil may be caused by a subsoil that does not drain, or by surface water from the adjoining area. The cause of the trouble will determine the remedy; for example, tile drainage will correct the subsoil, and the grade or slope of the lawn will largely take care of the surface water. The tile should be installed before the grading is completed.

Soil.—In building a new home, the subsoil from the cellar often is spread over the lawn area. This soil is not good for making a lawn until it has been treated. If possible, it is much better to remove the top soil from the lawn area, pile it nearby until the grading has been finished, then in the final grading return it to the lawn to become the seed bed. Kentucky bluegrass should have a good, fertile soil, four to six inches deep, that drains well and is in good physical condition. If it is necessary to use the soil from the cellar, it should be tested to determine the need for lime, phosphate and potash. If these nutrients are needed they should be applied in liberal amounts. Bluegrass prefers a soil that is neutral to slightly acid, rather than one that is highly alkaline; therefore, too much lime should be avoided. By applying 1,000 pounds of superphosphate and 500



A new lawn that was well graded before it was seeded. Notice how it is graded up to the walk and away from the house. This means the water runs from the foundation of the house and from the walk.

pounds of muriate of potash to the acre, it is possible to build up a reserve supply of these plant nutrients. A heavy application of well rotted barnyard manure, if available, should be applied to add humus as well as plant food. The manure, superphosphate and potash can all be applied at the same time and turned under by plowing to a depth of six to eight inches. This should be done just before the final grading is done. The soil should be thoroly prepared by harrowing and rolling. After the soil has been well prepared, the entire area should be raked with a garden rake, to finish the soil preparation and remove small stones and trash. Then, and not until then, is the new lawn ready for seeding. The amount of attention given to preparing the soil will largely determine the quality of the lawn in future years.

SELECTING GRASS FOR THE LAWN

Kentucky bluegrass (*Poa pratensis*).— This grass is the best for Kentucky lawns. It has a good, deep color, is spreading and permanent, has fine blades and when grown under favorable conditions, tends to crowd out many other grasses. It takes two or three years

for it to spread sufficiently to make a good, close turf. On account of this fact, it is often desirable to sow a rapid-growing grass with it in order to cover the ground and check weed growth. Redtop is recommended for this purpose.

Redtop (*Agrostis alba*).— Tho it belongs to a different group from bluegrass, redtop is used with bluegrass because it blends well and is rapid-growing. It is adapted to a wide range of soil conditions and, like the other bent grasses, develops quickly and is at its best during late summer and fall.

White clover (*Trifolium repens*).— White clover is often used with grass mixtures. Some like it; others do not. Its use, therefore, becomes a matter of choice. White clover makes most of its growth below the two-inch level, which is about the level grass is mowed. It helps make a carpet-like, sweet-scented turf. The seed should be sown only in the spring. It should not be sown in mixtures of bluegrass and redtop because the clover seeds are so heavy and smooth that an even distribution is difficult to obtain.

Fescues (*Festuca*).— This group of grasses is less important for lawns than any of those previously mentioned. The fescues are used in many lawn seed mixtures because they give a quick growth the first year. They have some use in places that are partially shaded. However, the hot, dry summers of Kentucky cause them to turn brown.

Bermuda grass (*Cynodon dactylon*).— Bermuda is the creeping bent grass of the south, producing a quick, dense turf. There are parts of Kentucky where bluegrass does not do well. For such regions bermuda makes a good substitute. The brown color into which bermuda turns in winter makes it less desirable than bluegrass; however, it does produce a pleasing, carpet-like turf. It is recommended only where bluegrass fails.

Rough bluegrass or meadow grass (*Poa trivialis*).— This is commonly called bird grass. It thrives best in damp, shady places and for this reason is often used in grass mixtures for shady areas. In the open it is injured by the sun, but its low-growing stems and bright green leaves make it useful in places where soil and shade are unsatisfactory for other grasses. Probably meadow grass is the best grass for shady places.

Wood bluegrass (*Poa nemoralis*).— This flat, low-growing, non-creeping grass is added sometimes to grass mixtures for shady places. It is not used so much as meadow grass.

It is very difficult to recommend a grass for shady places. Different

degrees of shade must be taken into consideration. A place may be somewhat shaded and still be suitable for growing grass, or a place may be so densely shaded that no grass could be made to grow. The variety of the tree producing the shade is another determining factor; for instance, maple (water maple, or soft maple) trees make conditions very unfavorable for grass.

SEEDING THE LAWN

There are two seasons of the year to sow grass seed in Kentucky; one in February, March and early April, the other in late August and early September. The August or September seeding is much the better of the two, in spite of the fact that many people still sow grass seed in the spring. Bluegrass seed sown in the late summer or early fall has time to germinate and get some growth before winter. The additional growth made in the spring and early summer enables it to withstand the hot, dry weather of July and August. When sown in the spring, it does not have sufficient time to reach that maturity necessary to withstand the heat and, often, the drouth of summer.

For the average lawn, sow the seed by hand; for a large area use a small seed sower. To secure as even a distribution of the seed as possible, divide the amount of seed into two equal parts, sowing one part in one direction and the other part at right angles to it. Since the seed is light in weight, select a time for seeding, when little or no wind is blowing.

Seed mixture.—For seeding Kentucky lawns in the fall, use a mixture of Kentucky bluegrass and redtop. The mixture recommended is Kentucky bluegrass, 4 parts by weight; redtop, 1 part by weight. If Fescues, meadow grass or wood bluegrass is needed because of shady places, add 2 parts by weight to this mixture. If white clover is used, it should be sown separately because the seed is so much heavier than any of the other seeds that might be used in the mixture. White clover should always be sown in the spring, late February or March.

Amount of seed to sow.—At least 4 pounds of the grass seed mixture should be sown to each 1,000 square feet of surface. This amount of seed is necessary to produce a good covering of the ground so that the weeds will be held in check. White clover should be sown at the rate of 1.5 ounces per 1,000 square feet. These seeds are so small and light that two or three times as much sand should be mixed with them so as to get a more even distribution. After the seed is

sown, rake it in lightly, using a garden rake. Then roll with a roller weighing 250 to 400 pounds. If a roller is not available, use a tamper made by fastening an upright handle in the center of a two-inch plank about 10 by 18 inches. It is very important that the seed should be brought in contact with the soil for satisfactory germination. For this reason, go over the area at least twice with the roller or tamper.

Kind of seed to use.— Good, high-grade seeds (of the various kinds) are the only ones to sow on the lawn. Altho bluegrass seed that weighs only 14 pounds to the bushel can be sold under the law, it is not recommended. Seed that weighs 21 pounds or over, even if it does cost a little more per pound, is much better. Moreover, the Experiment Station label should show the germination and the number of noxious weed seeds. The germination should be 80 to 90 percent, and the number of noxious weed seeds should be exceedingly small. In general, it will be best to buy all seeds that are to be sown on the lawn from a reliable seedsman rather than from a dealer who sells packaged seeds merely as a side line.

Nurse crops.— If the newly made lawn area slopes, it may be advisable to sow a quick-germinating nurse crop to prevent soil washing. Annual italian ryegrass (*Lolium multiflorum*) is widely used as a nurse crop for bluegrass. Oats and barley also are sometimes used; however, most home owners prefer the ryegrass. Regardless of the kind of nurse crop used, the lawn should be seeded lightly with it, one-half to one pound for each 1,000 square feet. The nurse crop should be added after the lawn has been seeded and given the final raking, but before it is rolled or tamped. If a nurse crop is used, cut it about 4 inches high with a scythe or sickle to prevent reseeding.

SODDING

Where good sod is available, sodding is the quickest way to get a stand of grass on a new lawn. If the sod is bought, it is more expensive than seeding, but in some cases it is more desirable. Terraces or banks can be sodded without any risk of the soil washing. Bare spots that for some reason did not get a stand of grass, can be covered and made to look as good as other parts.

Before the sod is placed, prepare the soil just the same as for seeding. Use care in getting sod that is free from weeds and undesirable wild grasses. Cut the sod two inches thick and in strips one-foot wide and two-feet long. Roll the strips before transporting to the lawn. Lay the strips of sod as soon after cutting as possible. Fit the edges together closely, and beat the sod down with a tamper or back



Here the trees are located to the sides leaving the front lawn open. Notice the good sod. This creates a very pleasing setting for the home.

of a spade. Do this as the strips are put down. Fill the cracks between the strips of sod with good soil, and water thoroly. As soon as the newly placed sod is dry, roll or beat it down again. Do not permit new sod to suffer for water the first year. As a rule, it will be best not to cut the grass on new sod during the first year.

CARE OF THE NEW LAWN

Often the new lawn is neglected after it has been carefully prepared and seeded or sodded. This is a mistake, for the soil must be fed, the surface rolled, weeds kept out and the grass cut, if the lawn is to develop in the proper manner.

Feeding.—If the new lawn has been made in the summer and seeded or sodded in late August or September, it should be fed in the late fall or early winter. Well-rotted cow manure applied in early December is excellent. Tobacco stalks, placed on the lawn as soon as the tobacco has been stripped, and left there until the first or middle of March, furnish a liberal amount of plant nutrients in a readily available form. Sulfate of ammonia or nitrate of soda applied at the rate of four to five pounds per 1,000 square feet will supply

nitrogen. Select a time just before a rain, to apply either of these materials, or if water is available, wash in with the hose. These materials can be mixed with soil or sand to get a more even distribution. Add one gallon of soil or sand to two pounds of either the sulfate or nitrate. If the lawn has been made and seeded in the spring, the nitrate or sulfate should be used after the young grass is about one or two inches tall. If the new lawn has been sodded in the spring it will be best not to use either of these nitrogen-carrying fertilizers.

Rolling.— The lawn should be rolled each spring to press the grass roots loosened by freezing, back into the soil and to smooth its surface. A hand roller from 300 to 350 pounds weight is recommended. Use of a heavier roller tends to make the soil hard. Use the roller in the spring just as soon as the soil is firm enough to support it. Large areas can be rolled with a farm roller, but in this case the soil must be dryer than when a hand roller is used.

Weeds.— By all means keep the weeds out of the new lawn. This may require hand weeding but it pays. Dandelion, narrow-leaf and broad-leaf plantain, dock and crabgrass are especially troublesome. These weeds grow more rapidly than the young grass and remove much moisture and plant food needed by the grass. They can be held in check if they are kept from producing seed. It is an excellent practice to scatter a little good bluegrass seed where weeds have been pulled or dug. By keeping the weeds controlled, a good sod will soon develop.

Clipping the grass.— Do not be in a hurry to cut the young grass on a newly made lawn. Let the grass grow until it is five or six inches tall and begins to fall over, before cutting. Cut it at least 2½ inches tall; 3 inches would be better. When a lawnmower cannot be set to cut the grass at this height, use a sharp sickle or scythe. Keep the grass clipped, because repeated cutting encourages the spreading of the plants and hastens the development of a good sod. The frequency of mowing will depend entirely on the rate of growth of the grass. During dry, hot weather cut the grass less frequently and never less than two and a half inches high. The clippings can be left on the lawn when the grass is cut regularly. These clippings form a mulch and conserve moisture, and in decaying they add some plant nutrients; however, during long wet spells they may cause molding that is not good for the grass. This is especially true if the lawn is shaded. If it becomes necessary to remove the clippings, the raking should be done carefully so as not to injure the young grass.



Some lawns have so many trees in them that it is impossible to have grass. Usually on such lawns some of the trees can be removed and still have enough left and at the same time have good grass on the lawn.

CARE OF THE OLD LAWN

There are many old lawns that have deteriorated to such an extent that it is almost impossible to renew them. In many if not most instances the poor condition of the lawn is due to a deficiency of plant nutrients. In lawns where the bluegrass has practically all disappeared, the easiest method is to treat the area as a new lawn and follow instructions given in the preceding pages.

Old bluegrass sod on neglected lawns sometimes may be improved by fertilizing, rolling, reseeding and regular clipping. Weeds and undesirable grasses should be dug up and destroyed, fresh soil added to fill any depressions, and the entire lawn reseeded heavily with good seed. If it is possible, start this clean-up campaign in the spring, continue it thru the summer, reseed in September, and fertilize in the fall soon after the first frost. This process should restore the lawn satisfactorily. If the old sod is reasonably good, two pounds of bluegrass seed per 1,000 square feet of surface should be sufficient. Often old lawns have some bare spots of various sizes; they may be sodded to get a quick covering. Rolling does much to correct the unevenness of the surface of the old, neglected lawn. It may be advisable



Terraces are difficult to build and maintain and should be omitted wherever possible.

for two or three years to use the roller two or three times each spring, or until the rough places have been leveled.

The neglected lawn should never be clipped close in mid-summer, for such clipping will leave the grass crowns exposed to the hot sun. Such exposure may kill much of the grass.

Satisfactory lawns are the product of the combined influences of proper soil, drainage, plenty of good seed and a liberal amount of plant food. Good lawns do not just happen; they require constant care.

QUESTIONS AND ANSWERS ABOUT LAWNS

1. Question: How can moles be controlled in the lawn?

Answer: Moles can be trapped if the traps are skillfully set. Moreover some commercial materials on the market will kill them. A simple way is to open carefully the runway with a stick about two feet long and scatter a few crystals of ordinary lye in the opened run, then replace the soil. Be sure you do not touch any of the soil with the hands, as the mole is shy of the odor of human beings.

2. Question: When should the lawn first be clipped in the spring and last in the fall?

Answer: The lawn should not be clipped in the spring until the grass is at least four inches tall. The last cutting in the fall should be made early enough to permit the grass to make a growth heavy enough for winter protection.

3. Question: How can ants be controlled in the lawn?

Answer: Sprinkle a few crystals of paradichlorobenzene, commonly called P.D.B., in the holes in the ant hill. Then tramp down the soil over them. This will usually kill the ants or drive them away. Use the material sparingly or it will kill the grass. It may require two or three applications. Another method is to pour about a teaspoonful of carbon disulfide into the center of the hill and cover the entire mound with wet burlap or newspaper. Leave the covering on for several hours. This material is very inflammable and should be kept out doors and away from fire.

4. Question: How can earthworms be controlled in the lawn?

Answer: Lead arsenate applied dry, at the rate of five pounds to 1,000 square feet, and watered into the soil will control the earthworms. To get an even distribution, the lead arsenate may be mixed with one-half bushel of sand or dry soil. This treatment also kills the white grubs that are the larvae of the May or June beetles.

5. Question: How can dandelions be controlled?

Answer: It is doubtful if any recommendation can be given that will guarantee absolute control of this pest. The dandelion is a perennial that develops quite a large root and practically any part of this root can produce a new plant. Dandelions will not multiply rapidly in a lawn where the sod is heavy; therefore, grow a good sod of bluegrass. If dandelions are not too thick, cut the roots about one inch below the surface of the soil and apply a few drops of gasoline to the exposed root. A long-spout oil can is excellent for applying the gasoline. If the dandelions are quite evenly distributed over a portion of the lawn, copperas (iron sulfate) applied in the form of a spray will kill them. Use $1\frac{1}{2}$ pounds of iron sulfate dissolved in 1 gallon of water and apply about 3 gallons to 1,000 square feet of surface. Use a sprayer that makes a fine mist. This may turn the blades of the bluegrass black or dark but it will soon outgrow the injury. It will burn the leaves of the dandelion and kill them. Since new leaves will grow from the old dandelion roots, it will be necessary to repeat the spray in about two weeks, or when the young dandelion leaves are well grown. Make the first application of the spray in the early spring when the dandelion leaves are well developed. Two or perhaps three sprayings should be given in the spring and early

summer, and if the dandelions persist, one or two applications in the fall may be necessary. Dandelions may be seeded in the lawn from an adjoining area.

6. Question: How can broad-leaf plantain be eradicated?

Answer: To eradicate this weed, prevent its seed formation, the method by which it multiplies. Constant cutting of the lawn with a lawnmower prevents seed formation. Since this weed sprouts from any part of the root, remove the entire root when digging it. Dig it in late spring and early summer. Always scatter some bluegrass seed in the spot from which this weed has been removed.

7. Question: What is the best way to control narrow-leaf or buckhorn plantain?

Answer: Fortunately, since this pest is comparatively shallow-rooted, its few and scattered plants can be dug during May or June. They do not sprout from the root. The iron sulfate treatment can be used if these weeds are quite plentiful. A small amount of dry sulfate of ammonia placed on the crown of each plant will usually kill it.

8. Question: What are the recommended methods for control of crabgrass?

Answer: This annual grass is found in practically all lawns and in many of them, where the bluegrass sod is light, it crowds out all other grasses. The seed of the crabgrass does not germinate until May. It does its growing during the hot summer months. At this time bluegrass is more or less dormant, as it is a cool-weather crop growing in the cooler times of the year. These facts indicate that the lawn should not be fed with a readily available fertilizer during the time when the crabgrass is making its growth. It will be noticed that the crabgrass does not grow in the shade; therefore, artificial shading with a tarpaulin of light-proof material will kill the young plants in late May or early June. Usually a week will be sufficient to kill the young crabgrass plants and while it may cause the bluegrass to lose color, and even kill some of the tips of the blades, it will soon recover after the shade has been removed. This shading is practical where the crabgrass is found only in spots or in small areas. As soon as the crabgrass has been killed by shading, the soil should be loosened and some quick-growing crop, such as Italian rye or redtop, sown. In late July or August, just before it begins to produce seed, the crabgrass can be dug with a hoe and removed. The roots do not have the ability to renew the top. Chemicals that kill the crabgrass and not the bluegrass are still in the experimental stage and cannot be recommended

at this time. Crabgrass produces an enormous amount of seed and all plants should be cut to prevent seed formation. Cultivating soil where it has been growing simply works the seed into the ground.

9. Question: Should the lawn be watered in the summer?

Answer: It is very doubtful if the average person is willing to apply enough water to the lawn to do the grass any good. Since summer is the time when the bluegrass is naturally making little or no growth, and the crabgrass is making its best growth, there is the constant danger of applying just enough water to benefit the crabgrass but not enough to do the bluegrass any good whatsoever.

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