How to Have an Attractive LAWN

By H. R. Kemmerer and F. F. Weinard

Circular 729
# CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GIVE THE NEW LAWN A PROPER START</strong></td>
<td>3</td>
</tr>
<tr>
<td>Seed in fall</td>
<td>3</td>
</tr>
<tr>
<td>Choose a seed adapted to your site</td>
<td>3</td>
</tr>
<tr>
<td>Mixtures make best lawns</td>
<td>5</td>
</tr>
<tr>
<td>Grade to accent house</td>
<td>6</td>
</tr>
<tr>
<td>Even rich soils benefit from fertilizer</td>
<td>7</td>
</tr>
<tr>
<td>Soil tests will tell soil needs</td>
<td>8</td>
</tr>
<tr>
<td>How and when to fertilize</td>
<td>8</td>
</tr>
<tr>
<td>Use extra effort when preparing seedbed</td>
<td>9</td>
</tr>
<tr>
<td><strong>PROPER CARE WILL KEEP THE LAWN ATTRACTIVE</strong></td>
<td>11</td>
</tr>
<tr>
<td>Rolling, Raking, Mowing</td>
<td>11</td>
</tr>
<tr>
<td>Adding fertilizer and lime</td>
<td>11</td>
</tr>
<tr>
<td>Watering</td>
<td>12</td>
</tr>
<tr>
<td>What to do for weeds and other troubles</td>
<td>12</td>
</tr>
<tr>
<td><strong>PUTTING A POOR LAWN INTO GOOD SHAPE</strong></td>
<td>14</td>
</tr>
<tr>
<td>Determine reason for poor lawn</td>
<td>14</td>
</tr>
<tr>
<td>When and how to renovate</td>
<td>16</td>
</tr>
</tbody>
</table>

(The picture on page 7 is used through the courtesy of the Small Homes Council, University of Illinois.)
How to Have  
AN ATTRACTIVE LAWN  

By H. R. KEMMERER and F. F. WEINARD

EVERY LAWN can be made and kept attractive—whether it is a new seeding or an old lawn in need of improvement. In establishing a new lawn, the key to success is the use of proper construction and maintenance methods. In renovating an old one, the problem is to find and remedy the cause of failure.

GIVE THE NEW LAWN A PROPER START

By starting your lawn right, you can save yourself many future problems. It is important to seed at the proper time, to sow seed that is adapted to your specific conditions, and to prepare the seedbed properly.

Seed in fall

September is the best time to start a new lawn because the seed has a chance to develop a dense stand before cold weather. Spring sowing often has to be delayed because of wet soil, so that a thick sod cannot develop before weeds appear.

If you do prepare an area for late spring planting, you can sow annual rye grass or redtop to provide ground cover until fall, when you can make the permanent seeding. These grasses will make a fairly nice appearance throughout the summer if you keep them mowed. You can also seed your permanent grasses in the spring if you are willing to do a lot of renovation work in the fall.

Choose a seed adapted to your site

What seeds you should sow depends largely on the conditions under which they will be grown. A grass that does well in a moist, heavy soil, for example, may not survive in a dry, sandy soil. The following paragraphs list the characteristics of the various grasses suitable for lawns in Illinois.

Kentucky bluegrass is the most common lawn grass in Illinois. It has wide blades and a rich green color. This grass grows luxuriantly in early

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spring and in fall, but is semi-dormant during midsummer, giving weeds a chance to become established. Severe drouth causes it to turn brown, but it recovers quickly when the soil becomes moist again.

For best growth, Kentucky bluegrass needs a fairly rich, well-drained soil. It does well in slightly acid soil but will not tolerate dense shade or close clipping. Cutting it shorter than 1½ inches will seriously weaken it and give crab grass and other weeds a start. Letting it get too long before mowing will also weaken it.

Because the seed of Kentucky bluegrass germinates slowly, a nurse grass is usually sown with it.

**Merion Kentucky bluegrass** looks very much like Kentucky bluegrass, but the leaf blades are slightly wider. The two grasses require essentially the same soil, although Merion is more drouth-resistant. Merion grows better than Kentucky bluegrass in summer, and it will also take more mowing abuse, because its blades turn down into bare spots where the mower does not get at them.

Merion is slow in developing a thick sod, and therefore it should be sown with a temporary grass like redtop.

**Rough-stalked bluegrass** (*Poa trivialis*) is light green, with a texture similar to that of Kentucky bluegrass. It is well adapted to shade and moisture, and will grow in poorly drained spots if the soil is not below pH 6. It will not, however, tolerate hot, dry conditions; nor will it stand up under heavy traffic. For these reasons it is best for moist, shady spots that are not used for play or other activities.

**White clover.** Although not a grass, white clover is used in some lawn seed mixtures because it starts to grow early in spring and looks green after mowing. It grows on poor soil, and since it is a legume, it helps supply nitrogen to the soil.

One disadvantage of clover in a lawn is that it grows in patches, making the texture uneven. It also winterkills. A stand of clover that is good one year may have many bare spots that will be filled with weeds the next year. Clover stains clothing and should not be used where children play.

**Fescues.** Chewings fescue and creeping red fescue have stiff, wiry leaves that make them hard to mow. Because of this toughness, they are good for use on playgrounds and athletic areas. Fescues grow best in well-drained, highly fertile soil with a pH above 6. You can, however, establish them on an acid soil that is not very fertile. They will grow well on drouthy soil in either sun or shade. But they do not thrive when clipped to less than 1½ inches or when the weather is hot and humid and the soil very moist.

Several improved strains of chewings and creeping red fescue have been developed.

**Tall fescue.** The Alta and Kentucky 31 strains are recommended for athletic fields and large lawn areas that are not cut closely. They resist heavy wear; have coarse, deep root systems; and withstand hot, humid weather and disease better than other fescues. They are too coarse for home lawns.

**Colonial bent grass** is a mat-forming lawn grass that grows rapidly. It does well in summer when Kentucky bluegrass and the fescues slow down. Its density and its summer growth keep weeds out of the lawn, and for this
reason it is often used in mixtures. Even when only a very small amount is included in a mixture, it becomes the dominant grass after several years if the lawn is clipped to less than 1½ inches.

Probably the greatest advantage of colonial bent is its ability to withstand close clipping. Disadvantages are that it starts growing late and stops early; its moisture and fertility needs are high; it requires persistent clipping; and it is susceptible to two diseases, brown patch and dollar spot.

Astoria, Cascade, Oregon, and Highland bents are all strains of colonial bent.

Creeping and velvet bents are used primarily for putting greens on golf courses. Their creeping stems form a densely matted lawn that requires mowing about twice a week to be kept attractive. In addition, the lawn needs more water and fertilizer than do bluegrass lawns. It should be top-dressed with soil at least once a year, and brushed twice a year.

Redtop and rye grasses don’t survive long when closely clipped but they do germinate rapidly. They may be either used alone as temporary lawns or included in mixtures to provide a cover that will keep out weeds and hold the soil in place until the slower permanent grass becomes established.

Redtop is finer than rye grass and does not compete as seriously with the permanent grasses. Also, it will grow well in both dry and poorly drained soils and will thrive in soils of low fertility.

Other grasses. U-3 Bermuda and Meyer Zoysia, especially the latter, make a dense turf that crowds out weeds. They are, however, warm-weather grasses that turn completely brown with the first frost and stay brown until late spring.

It takes Zoysia two years to provide a complete cover even under favorable conditions. No seed is available commercially. Sprigs (vegetative shoots) can be obtained from some nurseries.

Timothy and orchard grass can be used in mixtures for meadow-type lawns. Several other grasses are occasionally recommended for lawn use, but most of them form a coarse, undesirable turf or have other serious drawbacks.

Mixtures make best lawns

A grass seed mixture usually produces a satisfactory turf more quickly than does a single species. A particular seed is included in a mixture for a specific purpose. For example, colonial bent grass in a Kentucky bluegrass mixture thickens the turf in midsummer, when the bluegrass is semi-dormant, and thus helps to keep out weeds. Most seed mixtures contain temporary grasses that germinate rapidly. They prevent erosion, hold the permanent seed in place, and provide shade for the permanent grass seedlings.

You can make your own mixtures, or you can use prepared ones. A good mixture contains less than 1 percent of weed seeds, and less than 25 percent of temporary grass or other seeds not wanted in the permanent lawn. The mixtures mentioned below are not the only ones that may be used, but they do illustrate some possibilities.
Some suggested lawn seed mixtures, including percentage of each grass in mixture, and rate of seeding in pounds per 1,000 square feet

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<thead>
<tr>
<th>Sunny exposure, heavy soil</th>
<th>Shade, sandy soil</th>
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<tr>
<td>Kentucky bluegrass, 80%; redtop, 20%</td>
<td>Chewings fescue, 40%; Merion bluegrass, 40%; redtop, 20%</td>
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<tr>
<td>Kentucky bluegrass, 75%; colonial bent, 10%; redtop, 15%</td>
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<tr>
<td>Merion bluegrass, 80%; redtop, 20%</td>
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<tr>
<td>Colonial bent, 80%; redtop, 20%</td>
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<tr>
<td>Sunny exposure, sandy soil</td>
<td>Play areas, any soil</td>
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<tr>
<td>Chewings fescue, 40%; Merion bluegrass, 40%; redtop, 20%</td>
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<td>Chewings fescue, 80%; redtop, 20%</td>
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<tr>
<td>Shade, heavy soil</td>
<td>Meadow-type lawn, any soil</td>
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<tr>
<td>Rough-stalked meadow, 40%; Merion bluegrass, 40%; colonial bent, 10%; redtop, 10%</td>
<td>Kentucky bluegrass, 80%; redtop, 20%</td>
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<td></td>
<td>Meadow-type lawn, sandy (dry) soil</td>
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<td></td>
<td>Tall fescue, 80%; redtop, 20%</td>
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<td></td>
<td>Temporary lawn, any soil</td>
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<td></td>
<td>Redtop, 100%</td>
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<td>Rye grass, 100%</td>
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Grade to accent house

A good job of grading sets off the house to best advantage; a poor job usually accents the lawn instead of the house. The finished grade should tie in naturally with the grade of surrounding fields or neighbors' yards. Fill, cut, or reslope until your lawn grade does not look artificial.

Slope ground away from house. If the land slopes up from the house, remove soil until the ground at a point 15 or 20 feet from the house is 4 inches lower than the ground right next to the house. From this lower level, gradually slope the ground to meet the original level. If the slope is too severe, you can use a retaining wall.

When the road level is higher than the level of the house, a terrace or retaining wall close to the road will give a large, open lawn area.

Terraces mean work. While terraces may save fill, they are hard to mow, and it is a problem to keep the grass green on them. If a terrace is necessary, put it either next to the road or close to the house. A terrace in the center of the lawn catches the eye and distracts attention from the house.
Save the topsoil to respread on the surface after grading. At least the upper 6 inches of fill should be topsoil. Do not use scrap concrete, boards, bricks, tin cans, or other refuse for fill. They will harm your lawn and trees.

Don’t kill the trees. Special precautions are necessary both when removing and when filling in soil around the base of a tree. If cutting, retain the original grade in an area of about the same diameter as the branch spread of old trees and twice the branch spread of younger trees. The same sized area—or larger—should be conditioned when you are filling. Before filling, build a stone or brick wall around the trunk, far enough away that the tree can grow to maximum size without touching the wall. Porous tile air vents—about six around a large tree—are needed to give the roots plenty of air.

Even rich soils benefit from fertilizer

Although some grasses will grow on poor soil, a fertile soil is necessary for a truly vigorous, weed-free lawn. Even a naturally productive soil needs to have its store of plant foods replenished from time to time.

Nitrogen is the plant food that grass needs most, because it stimulates rapid growth and dark green leaves. Although it is generally present in small amounts, rainfall during the growing season leaches the water-soluble form down out of the root zone of the soil. Nitrogen must therefore be added to soils every year.

Phosphorus promotes root growth. Grass needs a well-developed root system to support a luxuriant top growth. Well-rooted turf grasses survive summer heat and drouth better than poorly rooted grasses.

Potassium helps to increase vigor, hardiness, and disease resistance of grass. It is less apt to be lacking than is nitrogen and phosphorus.
**Calcium.** Too little calcium (which is supplied by lime) is the common cause of acid soil; too much calcium causes an alkaline condition. Lawn grasses grow best in slightly acid to neutral soil. If grown in soil that is too acid or too alkaline they are usually weak and stunted. Their roots do not develop and they can’t make use of plant foods in the soil.

**Other elements.** Most soils contain enough copper, zinc, boron, and the other minor elements.

**Soil tests will tell soil needs**

Soil tests will tell you whether your soil is acid or alkaline and how much fertilizer it needs. You can have your lawn soil tested in the Division of Floriculture, University of Illinois. For further information, write to 100 Floriculture Building, Urbana, Illinois.

**Until you have your soil tested.** Even if your soil hasn’t been tested, applying nitrogen, phosphorus, and potassium fertilizers at recommended rates will not give you an oversupply of plant food (see below for suggested rates). You can, however, put on too much lime, changing an acid soil to one that is too alkaline. It is therefore best to apply lime only on the basis of soil tests.

**How and when to fertilize**

**Complete fertilizers.** If you have only a small lawn, the most convenient and usually the most practical method of raising plant food levels is to use a complete fertilizer. It can be either organic or inorganic.

*Organic fertilizers* include such materials as natural manures, sewage sludges, and cottonseed or soybean meal. They do not readily leach out of the soil, and that feature may be an advantage in sandy soils. On the other hand, they are rather slowly available, and if applied in late spring may feed crab grass and other weeds more than the bluegrass.

*Inorganic fertilizers,* which consist of insoluble or soluble chemicals, are more quickly available to plants than are organic fertilizers. They vary in the number and the proportions of their ingredients. Since lawns need liberal amounts of nitrogen, a fertilizer with a 10-8-6 or similar analysis should be used. A 10-8-6 analysis means 10 percent nitrogen, 8 percent phosphoric acid, and 6 percent potash.

Use the rate advised by the manufacturer. To avoid burning the grass, apply the fertilizer when the grass is dry, and brush it in with a
broom or rake or water it in with the hose. It is possible to get completely soluble, high-analysis fertilizers, which are applied with a sprinkling can or hose attachment.

**Individual elements.** To add just nitrogen, apply ammonium sulfate evenly at the rate of 5 pounds to 1,000 square feet when the grass is dry, and brush or water in. If you need phosphorus, apply 15 pounds of 20-percent superphosphate to 1,000 square feet. To supply potassium, put on muriate of potash at the rate of 3 pounds to 1,000 square feet. (Soil tests may show that you need more of these elements.)

**Time to fertilize.** The best time to feed a lawn is early fall, although fertilizer may also be applied in early spring. The object is to feed the desirable turf grasses at a time when growing conditions are most favorable.

**Use extra effort when preparing seedbed**

How good a lawn you have will depend largely on how carefully you prepare the seedbed. Here are the steps that should be followed:

1. **Apply organic matter, fertilizer, and lime** after final grading. Organic matter, such as peat, manure, or sewage sludge, improves the structure of soils. It makes clay soils less compact, increasing their water-holding capacities, and also increases the water-holding capacity of sandy soils. As already mentioned, manure and sewage sludge serve as fertilizers as well as sources of organic matter.

Whether you add organic matter depends upon how good your soil is, whether you can get the material, and how much it costs. Peat is the best form to use if you’re not depending on the organic matter to serve as a fertilizer, because it will last a long time. The others disappear after a few years.

There is no minimum or maximum amount to apply. One-half inch of peat or one inch of sewage sludge spread over the soil surface will supply a lot of organic matter. Or you can put 500 to 1,000 pounds of manure on each 1,000 square feet.

At this time you can also apply the amounts of limestone, phosphorus, and potassium that are needed.

2. **Plow or rototill soil** to a 6-inch depth. If the entire area was filled, deep diskinig is good enough. Do not work the soil when it is wet.

3. **Apply soil additives and grub-proofing materials.** These may also be applied in Step 1. Conversely, instead of applying the limestone right after the final grading, you can apply it now, after plowing or rototilling the soil.
Krilium or other synthetic soil additives will improve the structure of poor soils. But on good soils the added value may not be worth the expense and time involved in applying these materials. If you use any additive, follow the recommendations of the manufacturer.

By eating the roots of lawn grasses, grubs sometimes cause lawn failures. Such insects, as well as earthworms, also attract moles. Controlling grubs, other insects, and earthworms will keep the moles from working in the lawn. (See page 13 for materials and rates.)

4. **Disk the soil** 6 inches deep.

5. **Rake or disk starter fertilizer** into the upper 2 inches of soil. Apply 20 pounds of 10-8-6 or a fertilizer of similar analysis to each 1,000 square feet to increase the growth rate and vigor of new lawn grasses.

6. **Rake**. Immediately before seeding, break all clumps of soil or remove them from the seedbed. Also, smooth the soil.

7. **Seed**. The type and amount of seed to sow will depend on soil conditions, exposure of the area to sun and shade, and the lawn texture you desire (pages 3 to 6).

   It is easier to get complete coverage and a uniform distribution of seed with a mechanical seed spreader. If, however, you sow by hand, divide the area into four sections with string. Then divide the seed into eight equal parts. Sow two parts to each section. One part should be sown in an east-west direction and the other in a north-south direction. Do not sow on a windy day.

8. **Rake** lightly to cover the seed.

9. **Roll**. Rolling firms the seed into the soil and stabilizes the seedbed so that you can mow without leaving tracks. A heavy roller is not necessary.

10. **Mulch slopes**. Mulching is not necessary on level soil where erosion is no problem. On slopes, you can use burlap or krilium in place of mulches to keep seed from washing. Asphalt treatment to prevent erosion is not feasible for home lawns.

11. **Water lightly**. Be careful when you water a new seeding. Use a fine spray; otherwise the seed will wash into low pockets and an uneven stand will develop. A No. 10 hand sprinkler gives very good results because it spreads the water over a wide area. Attach the sprinkler to the garden hose.

   Twice a day is not too often to water a newly seeded lawn. Only 1 or 2 inches of the soil needs to be soaked, because the seed is at the top. After the seed germinates, gradually increase the amount of water and decrease the frequency of watering. Continue watering, if necessary, until the grass has been mowed at least twice.
PROPER CARE WILL KEEP THE LAWN ATTRACTIVE

Taking good care of a lawn is practically a year-round job. It starts in early spring as soon as the ground is dry enough to walk on, and it doesn’t end until you remove all the leaves in the fall.

Rolling

Lawn rolling firms sod that has been heaved by freezing and thawing. It should be done in late winter, when you can crumble in your hand the upper inch of soil from bare ground next to the lawn. The roller should be light (about 100 pounds of weight for each foot of roller width). Using a heavy roller or rolling when the soil is wet causes compaction, which keeps roots from developing and moisture from soaking into the soil.

Raking

About a week before the first mowing, rake the lawn to remove dead grass, leaves, twigs, and other winter debris. You may also need to rake occasionally after mowing, if you have waited too long to mow and there are too many clippings on the lawn. If so, let the clippings dry for a day first, to reduce their bulk.

Rake leaves once a week in the fall to let plenty of air and light get to the grass. This is important for good fall grass growth. Do not let leaves stay on the lawn over winter, for they will smother the grass. Lawn grass does not need a winter mulch of any kind.

Mowing

Grass should be mowed whenever it is 3 inches high. If it is allowed to grow any higher, the lower blades may burn if they are exposed to the direct rays of the sun after mowing. Also, the clippings usually will not work into the grass and will turn into brown patches on the lawn unless they are raked. So while mowing at 3 inches may mean a few extra mowings, it will save time in the long run, as you will not have to rake afterwards.

Unless you have a bent grass lawn, which will survive close clipping, do not cut shorter than 1½ inches. Otherwise you will remove so much of the leaf surface that the grass won’t grow well. High clipping will help to produce a dense, uniform green lawn.

Adding fertilizer and lime

Fertilizer containing nitrogen should be added to your lawn twice a year to give the grass a uniform green color and make it dense
enough to keep out weeds. Apply the fertilizer in late March or April and again in late August or early September. Fertilizing in late spring and midsummer stimulates crab grass and other weeds. Apply 20 pounds of 10-8-6 or a fertilizer of similar analysis per 1,000 square feet.

Spread the fertilizer evenly. Uneven application will cause streaks of different shades of green. Water the lawn afterwards to keep the fertilizer from burning the grass.

Have your lawn soil tested for acidity every three or four years. You may have to add some lime. The tester will indicate the procedure, rate, and time of application.

Watering

Many people spend too much time watering their lawns. Usually watering is necessary only in July and August and occasionally parts of September. Fortunately, the lawn grasses are in a stage of semidormancy during these periods and do not need much water—only enough to keep the plants green. Applying a lot of water will not greatly stimulate the grass, but will stimulate weeds. Bent grasses need more water than others because they are more active in summer.

When prolonged dry spells make watering necessary, it is best to soak the soil to a depth of 6 inches and then sit back and relax for about a week before watering again. It's a good idea to water during the cooler parts of the day. Sprinkling a little each night is harmful because it causes the roots to grow close to the surface, where the soil dries out during the heat of the day.

What to do for weeds and other troubles

Weeds are the result and not the cause of a poor lawn. The best way to keep them from getting established is to apply fertilizer twice a year, never mow shorter than 1 1/2 inches, and water to a 6-inch depth. The thick turf produced by these treatments keeps light from getting down to the young weed seedlings, and they can't live without light. There are no chemicals that will kill or inhibit the germination of weed seeds without killing or severely injuring the grass.

If you find even a few weeds in your lawn, you had better get rid of them right away. Once they get a good start, it doesn't take them long to crowd out the desirable grasses. If the weeds are killed when they are young, they will leave only small bare spots that will be quickly covered by the lawn grasses. But if you wait until they are large, you will have bare areas that will give room to more weeds.

As good a method as any of eradicating weeds from a small lawn
How to Have an Attractive Lawn

is to dig them out with a knife. Chemical weed killers, which can be bought at most garden shops, nurseries, and flower shops, can be used in larger lawns.

Weed killers containing 2,4-D will kill such broad-leaved weeds as dandelion, plantain, and chickweed. Dandelion and plantain may be sprayed or dusted whenever the foliage is visible. Chickweed is best treated in very early spring.

You can also use 2,4-D to control wild onion and wild garlic. Early spring applications will kill the stems and soft bulbs but not the older bulbs. Wait until the following spring to treat new plants that grow from the older bulbs.

Be careful to keep 2,4-D from getting on ornamentals or vegetables as it will injure or kill these plants. Repeated applications on lawns containing clover will kill the clover, although it can stand one or two applications.

If you use 2,4-D in powder form, you can mix it with fertilizer. Follow the manufacturer's directions for amounts and methods of application.

Potassium cyanate and certain other compounds, such as phenyl mercury acetate, may be used against crab grass in established lawns, but the results are rather unpredictable. Sometimes eradication may be fairly complete; at other times control is poor or lawn grasses are injured. Repeated applications according to the manufacturer's directions when crab grass is young (in June) generally give best results.

Insects and worms. If your lawn is healthy and you can't find any insect activity, don't use insecticides. If there are insects, find out what they are and then apply the right insecticide. The labels on commercial insecticides tell what they are intended to control. Follow the manufacturer's directions when you put them on the lawn.

Lead arsenate and chlordane will control grubs and earthworms. Chlordane also checks webworms, chiggers, and ants. Apply lead arsenate at the rate of 10 pounds for each 1,000 square feet of lawn area and chlordane at the rate of \( \frac{1}{4} \) pound of actual chlordane for each 1,000 square feet. Let the insecticides remain on the soil several days, and then water them in.

Diseases requiring fungicidal treatment are rare in most bluegrass lawns. Bent grasses, however, are more susceptible to disease, especially brown patch and dollar spot. These can be controlled with mercury compounds.

Moles may make tunnels through your lawn in their search for grubs and earthworms. Controlling these pests will help keep moles
away. If they are already in the lawn, trapping is probably the best way to control them.

Mole traps are effective only when placed in the main runway. To locate it, press a foot of each of the channels back to the original level. The channel where the soil is again pushed up is the one in which you should place the trap.

PUTTING A POOR LAWN INTO GOOD SHAPE

If your lawn has become spotty and weed-infested, you can make it attractive again. But first you will need to decide whether it is worth improving or whether you should tear it up and start over. To follow the latter course takes more money and time, and if you have tree and shrub roots to contend with, your problem becomes even more difficult. So unless your lawn has gone completely to weeds, it is usually better to improve it than to remake it completely.

Determine reason for poor lawn

To renovate a poor lawn takes more than merely sowing some seed in the bare spots. You will need to find the cause of the trouble and then correct it. The common causes of lawn failures are listed below. Whatever the cause, the symptoms are the same: The grass dies out and the weeds come in.

Lawn wasn't seeded right. September is the best time to seed a lawn. Seeding in late fall doesn't give time for a thick sod to develop before cold weather, while spring-sown seed can't get a good start before weeds begin to grow.

Perhaps the wrong kind of seed was sown. The mixture may have contained too much redtop, rye grass, timothy, or other coarse or temporary grass. Such a mixture does not make a permanent, weed-resistant sod. Or the grass may not have been adapted to your particular soil conditions. (See pages 3 to 6 for descriptions of the different grasses and for suggested mixtures.)

Lawn didn't have right care. Cutting grass too short is one of the most common causes of poor lawns. Waiting until the grass is too tall before mowing is bad too. Suggestions for mowing are on page 11.

Frequent light sprinkling of the lawn stimulates root activity close to the surface. When the soil dries out, the roots die. Soak the soil to a depth of 6 inches, and don't do it oftener than once a week.

Improper use of fertilizer, lime, weed killers, and insecticides will harm the lawn. To avoid mistakes, follow directions on the containers.
How to Have an Attractive Lawn

Also be sure to fertilize either in early spring or early fall. Fertilizing in late spring or summer helps the weeds more than the grass.

**Soil is poor or in bad condition.** Soggy soil or water standing on the lawn is a sign of poor drainage. Filling the low spots with soil may help. In severe cases, tiling may be necessary.

Under trees and in other areas where there is a considerable amount of traffic, the soil is apt to be packed. Hard, packed soil won’t let water through, and it restricts root growth. You can tell whether your soil is compacted by taking a plug 6 inches square and 6 inches deep. If it contains many roots at a 5- to 6-inch depth and if it crumbles when squeezed, there is no compaction.

When there are only a few roots and the soil is hard and lumpy, it should be aerified before you reseed it. Small hand-operated aerifiers are available at some garden shops. Or you can aerify the soil by repeatedly forcing a garden fork into the ground. The handle should be held at about a 40-degree angle. If there is much traffic through the area, a hard-surfaced walk or patio may be desirable.

Sour soil restricts grass growth. A soil test will tell whether your soil is acid and what amount of lime you need to apply in order to correct the acidity. If the soil is lacking in plant nutrients, fertilizer can be applied in early spring (April) and early fall (September).

**Environment is bad.** If you have too much shade, you can remove some of the lower branches of trees or else plant grass that thrives in shade. Roughstalk bluegrass does well in shade if it gets enough water. Chewings or creeping red fescue will thrive in the shade in dry soil.

Ground covers like English ivy, myrtle, Japanese spurge, and purpleleaf winterrcreeper will often grow where grass will not. If neither grass nor ground covers will grow, cover the shaded area with gravel.

Maples and some other trees compete with grass for soil moisture and nutrients. Fertilizing and watering the area will usually help the grass. If not, plant a ground cover under the tree.

Heavy traffic harms some grasses. Paved walks and patio where traffic is heaviest will help protect the lawn. Use fescue in the play area; it stands up under heavy wear.

Mole damage often makes lawn renovation necessary. Sometimes the pushed-up grass will grow if it is firmed down and watered. Controlling soil insects (page 13) will help keep moles away.

Insects and diseases occasionally damage turf. If correcting the other causes of poor grass does not improve your lawn, disease or insects may be responsible for the trouble.
When and how to renovate

Start in August. Chances for a good lawn are best when you renovate in the fall. If you start the job in August, you can seed in September. The fall growth, plus the next spring’s growth, produces a sod thick enough to keep out crab grass, one of the lawn’s worst enemies.

Kill the weeds first. Some suggested weed killers are given on page 13.

Apply fertilizer, grub-proofing materials, and lime to the entire lawn. Fertilizer and grub-proofing materials should be put on a week or 10 days after the last treatment with weed killers. Apply 10 to 20 pounds of a fertilizer with a 10-8-6 or similar analysis to each 1,000 square feet. Directions for controlling grubs are on page 13.

Lime is also best applied now. But if you don’t have time to have your soil tested for acidity before seeding, you can do it later and then apply the necessary lime.

Rake the lawn surface thoroughly to loosen the upper crust of soil and tear up the mat of dried grass. If the area is large, it may be better to use a spike disk than a rake. Raking or diskng will not harm established grass.

Smooth the lawn and fill in the low places with fine top soil. Where you need only about an inch of soil, raking will allow the blades of established grass to come through without being smothered.

Seed with a mixture that is adapted to your soil and other conditions. Sow at one-half the rate recommended for a new lawn (page 6). The seed will make good contact with the soil if you mix it with soil before seeding.

Roll after seeding to help smooth the surface and firm the seed into the soil.

Water immediately after rolling. Use only enough water to moisten the upper inch of soil. When the soil is dry, water once a day until 2 weeks after the seed germinates. Then water less often, but use more water each time. You will usually not need to water after the middle of October.

Mow the lawn when the old grass reaches a height of 2½ inches, regardless of the height of the new grass.