STARTING a LAWN
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By J. D. BUTLER and W. M. BLAINE

IT IS POSSIBLE to have an attractive lawn for many years with a minimum of effort spent on maintenance. To do this, however, you need to plan carefully before you start your lawn. Its ultimate quality will depend, at least partly, on the decisions you make about such questions as variety of grass, planting time, and soil preparation and treatment.

SEED OR SOD?

Most lawns in Illinois are established from either seed or sod. Each method of propagation has several advantages. A lawn can be started from seed more cheaply than from sod, although the end product may cost more. A wider selection of grass varieties and mixtures is available as seed than as sod. Seed can be stored, while sod should be laid as soon as possible after it is delivered. In some areas, especially rural ones, seed is easier to get than sod.

Sod will provide an “instant” lawn, practically eliminating soil erosion and mud problems, and giving the new home an attractive setting right away. Except for the rather short time necessary to get the sod established, the labor and expense for maintenance during the first few months will probably be less than for a seeded lawn.

Lawns are sometimes started with plugs, stolons, or sprigs, depending on the grass or the particular situation (pages 11 and 12).

GRASS FOR THE LAWN

Since a lawn is usually a once-in-a-lifetime investment, careful attention should be given to choosing a grass or grasses that will insure a good, trouble-free lawn for years to come. Although good-quality seed or sod may add to your initial cost, it will undoubtedly save you money in the long run.

Kentucky bluegrasses

The Kentucky bluegrasses are the major turfgrasses in Illinois. They have underground stems, or rhizomes, and form excellent sod. Their drought tolerance is good, although they may turn brown during hot, dry weather.

A dozen or more varieties are on the market today. All have been selected from common Kentucky bluegrass because of one or more outstanding traits. They vary in their fertility needs, reaction to weather conditions, disease resistance, and other characteristics. Merion, for example, requires relatively large amounts of nitrogen to

\footnote{J. D. Butler, Assistant Professor of Turf Extension; and W. M. Blaine, Research Assistant in Horticulture.}
be a luxury grass. With poor maintenance, it will usually not look as good as common Kentucky.

Not every variety described on the following pages is necessarily available from every dealer. On the other hand, new varieties are constantly being introduced. A seed or sod supplier can probably furnish additional information about a specific variety.

**Common Kentucky or Kentucky bluegrass.** Until Merion was released in 1947, common Kentucky was virtually the only kind of Kentucky bluegrass grown. A composite of many types of bluegrass, common Kentucky is not considered a variety. It is grown successfully throughout Illinois. When seeded at relatively high rates, it produces a uniform, medium-green, medium- to fine-textured turf in a rather short time. It is fairly resistant to rust and mildew.

The greatest drawback of common Kentucky is its susceptibility to melting-out or leaf spot. Sod webworm can also be a very serious problem, both on common Kentucky and on its varieties.

Both seed and sod of common Kentucky are available.

**Arboretum Kentucky bluegrass** is a southern variety that originally came from Missouri. Its general characteristics are similar to those of common Kentucky.

**Delta Kentucky bluegrass** is a vigorous, erect grass that resembles common Kentucky in color and texture. Like common, it is quite susceptible to leaf spot. It has a marked resistance to powdery mildew and has about the same resistance to rust as common Kentucky does.

**Merion Kentucky bluegrass** is a dark green, low-growing grass with a rather broad leaf. With proper maintenance it makes a luxuriant turf. Merion needs a higher fertility level than the other Kentucky bluegrasses. So if only a passable turf will suffice and a minimum maintenance program will be followed, common Kentucky or one of the other varieties would be preferable to Merion.

When cared for properly, Merion will tolerate close mowing. It is highly resistant to leaf spot, but is susceptible to powdery mildew and rust. This grass does not do well in the shade. It is commonly recommended only for areas north of St. Louis.

Merion is readily available in most of Illinois as either seed or sod.

**Park Kentucky bluegrass** is a vigorous grass that is similar in texture to common Kentucky, but is a slightly darker green. Leaf spot can cause quite a problem, but Park has a high resistance to rust. Park is grown widely in the northern part of the United States.

**Newport Kentucky bluegrass** came from Oregon. It is a vigorous grass with a rather wide, dark green leaf that looks good in the fall. It has a high resistance to rust, and reportedly some resistance to leaf spot.

**Prato Kentucky bluegrass,** an introduction from Holland, produces a dense, fine-textured turf that is a slightly lighter green than common Kentucky. It is moderately resistant to leaf spot.
Windsor Kentucky bluegrass, a recent introduction, produces a dark green, dense, vigorous turf that is finer textured than Merion. Windsor tends to produce less vertical growth than common, Delta, and Park. It has moderate to high resistance to leaf spot and rust.

A-10, A-20, and A-34 Kentucky bluegrasses are available as sod only. A-10, a dark green, rather fine-textured grass, is well adapted to southern regions. A-20 is similar in texture and color to common Kentucky. Its most promising feature is its resistance to stripe smut, leaf spot, rust, and powdery mildew. A-34 has a high shade tolerance. These three grasses have a limited distribution at present.

Mixtures or blends of Kentucky bluegrasses are available both as seed and sod. The main advantage of mixtures is that they combine the good features of several varieties. Depending on management practices and the environment, one of the grasses in the mixture will in time be dominant.

Mixtures lack the uniformity of pure stands. A pure stand has other advantages as well, such as better resistance to a specific disease. The choice between a mixture and a pure stand of Kentucky bluegrass thus deserves careful consideration.

Other grasses

Red fescues have a fine, wiry, dark green leaf. They should not be confused with the coarse-textured tall fescues that are frequently a serious weed in fine-textured turf. Red fescues do well on poor or drouthy soils, and tolerate shade very well. A mixture of red fescue and a Kentucky bluegrass is very satisfactory for shady or sandy areas. Red fescues are often included in mixtures for athletic fields and playgrounds. Leaf spot is often a problem on red fescues.

Although several varieties of red fescue are available, most of that grown in Illinois is either creeping red fescue, Pennlawn creeping red fescue, or Chewings fescue. Pennlawn has some tolerance to leaf spot. Chewings is a bunchgrass with a more erect growth habit than the creeping red fescues.

Red fescue is usually started from seed. Sod of red fescue-Kentucky bluegrass is also available.

Bentgrasses. Creeping bentgrasses are the traditional golf green grasses in Illinois. Either creeping or colonial bents may be used for a home lawn. The bents are the most luxuriant lawn grasses in the northern United States. However, they require intensive care, including a good water and fertility program, to produce a top-quality lawn. The bentgrasses can be seriously injured by many common turf diseases and often look very poor during the summer if a good fungicide program is not followed. Weeds, too, are frequently a problem. Great care is needed in selecting pesticides that are safe to use on bents.

If bentgrass is seeded with other lawn grasses, even in small amounts, it will soon become quite noticeable and usually objectionable.
Bentgrass is one of the most common weeds in Kentucky bluegrass turf, and is extremely difficult to eradicate.

Of the bentgrass varieties, Astoria and Highland colonial bents form an exceptional lawn turf if properly maintained. Astoria is bright green while Highland is a dark blue-green. Penncross creeping bent, a medium-green grass, is widely used for golf greens, while Sea­side creeping bent is often favored as a fairway grass. Other creeping bent varieties include the medium-dark green Washington, medium­green Toronto, and yellow-green Cohansey.

Most creeping bentgrass varieties are available as sod or stolons. Seed of Penncross and Seaside are available, and Astoria and Highland are established primarily from seed.

**Tall fescue.** This coarse-textured, deep-rooted grass is widely used for pasture. It grows well in dry weather when Kentucky blue­grass is dormant, and it also stands wear very well. Pure stands of tall fescue seeded at heavy rates can make a passable turf, especially on large areas. This grass is used on occasion in southern Illinois where it is especially difficult to grow a good turf. It has been widely and suc­cessfully used to stop erosion on steep slopes. Diseases and insects are seldom a problem on tall fescue.

When mixed with other grasses, tall fescue will "bunch" and be objectionable. This characteristic, combined with its hardiness, makes it a serious weed in many Illinois lawns.

Kentucky-31 and Alta are the commonly grown tall fescues.

**Redtop.** This important pasture grass is often included in lawn seed mixtures to act as a nurse or cover grass that will provide quick cover and help stabilize the soil. Redtop tends to form clumps that are quite distinctive in color and texture from Kentucky bluegrass. Redtop is especially noticeable in a bluegrass lawn when seed heads are being formed or when the weather is dry. It may persist for many years in Illinois lawns. No varieties are available.

**Perennial ryegrass** is usually a major constituent of cheaper seed mixtures. Many of the better mixtures also include some of this grass, because it germinates quickly and provides a rapid cover. It is espe­cially useful for plantings on slopes because it will slow erosion. When cared for properly, perennial ryegrass does not differ from Kentucky bluegrass in appearance as much as redtop does.

Perennial ryegrass is tough to mow and the frayed leaves are quite evident in a lawn, especially if a dull mower is used. Ryegrass forms seed heads over a relatively long period, and these are frequently objectionable. For the first few months after seeding, ryegrass will compete rather strongly with Kentucky bluegrass. Perennial ryegrass is relatively short-lived, however, and will not usually persist in lawns for long, especially in northern Illinois.

**Zoysiagrass.** This warm-season grass forms a dense turf that is relatively free of weeds, diseases, and insects. It becomes brown with
freezing weather and does not green up again until mid-spring. The grass may be dyed or painted for cool weather color.

Meyer Z-52, the commonly grown zoysia in Illinois, is generally hardy throughout the state, but is more common in the southern than in the northern part. It must be reproduced vegetatively, and is widely available as sod, plugs, or sprigs. Unless sod is used, weeds may be a serious problem for the first few years since it takes that long to get a solid stand.

Bermudagrass. Like zoysia, bermudagrass is a warm-season grass that turns brown in winter. With proper care, bermuda will form a fine, dense turf, although diseases are often a problem. Bermuda is a favored lawn grass in the south, but very little is used for turf in Illinois, even in the southern counties. It is often a serious weed in gardens.

The newer, fine-textured varieties are vegetatively propagated, and will form a turf rapidly from stolons or sprigs. U-3 has been more widely used in Illinois than other named varieties. This variety, as well as others, is occasionally grown in the St. Louis area and a little farther north.

Mixed species versus pure stands

In recent years the trend has been toward using only one kind of grass to establish a lawn. This is partly due to the high-quality turf that is possible from pure stands with present day materials and methods. Large turf areas have long been established from one kind of grass.

In general, the inexpensive mixtures on the market produce a very poor quality turf that lacks uniformity and longevity. A few mixtures that are recommended for specific areas are given in the table on page 10. Very few grass mixtures are available as sod.

WHEN TO START A LAWN

The best time for starting a lawn depends largely on the grass and the propagation method that you choose.

From seed. A Kentucky bluegrass or other cool-season grass is best seeded in late summer or early fall. When moisture is adequate, the temperature at this time of year encourages rapid growth of the grass. Annual weeds in the young turf will be killed by freezing before they can compete seriously with the turfgrass. The growth of the grass during the first fall and the following spring provides a vegetative cover that will help to keep out weeds the second year.

The probable best dates for late summer or fall seeding vary from northern to southern Illinois (see map on next page). Whenever possible, the earlier a lawn can be seeded within the indicated period, the better the results will probably be. Sometimes, because of fall rains,
The probable best times for seeding cool season grasses.

late completion of a house, or some other reason, it is not possible to seed during the recommended period. Although a delay in planting will increase the risk of not getting a satisfactory stand, this may be offset by the advantages of fall seeding. It may therefore be better to seed a week or more after the recommended period than to delay until spring.

Although late summer and early fall are the favored times for seeding, many lawns are seeded in the spring. Generally soil moisture is better in the spring than in the fall except that the soil is often too muddy to be worked. However, the weed problem must be faced the first summer. Again it may be necessary to delay spring seeding beyond the recommended time (see map). As spring advances, crabgrass and other weed problems will become worse and moisture conditions will be less favorable.

**From sod.** A new lawn may be successfully sodded nearly any time of the year, except that sod is not usually laid when the soil is frozen or when it is too muddy. More water will probably be needed to establish sod satisfactorily during the late spring and summer than in other seasons. Since sod is rapidly established during this warm period, however, it won’t need the extra watering for very long.

**From stolons, sprigs, or plugs.** Fall is the favored time for starting a bentgrass lawn from stolons. However, whichever propagation method is used, the warm season grasses (bermudagrass and zoysiagrass) should be started in the spring or early summer so they are well established by winter.
BEFORE YOU PLANT

Remove debris

Before the finish grading is done or topsoil is added, remove any tin, boards, or other debris that may have been left after construction. Large pieces of debris will show up later as dead spots in the lawn, especially during dry spells, when the grass won't get enough moisture.

Make sure the lawn is properly graded

The finish grade that contractors give the lawn area is usually satisfactory. It may be necessary to do a little additional leveling, however, to make sure that the lawn will drain properly and can be maintained with a minimum of effort and expense.

For good drainage, the lawn should slope away from the house. If the slope isn't right, small ponds may develop in some areas, causing a serious problem. On the other hand, extremely sandy soils or soils on steep slopes may drain too rapidly. The resulting drouthiness will make it difficult to keep the grass on these areas looking good, especially in summer. Several weeds, such as annual bluegrass, thrive in damp areas, while others, including sandbur and knotweed, do very well in dry places. Usually the desired lawn grasses do rather poorly where it is either very wet or very dry.

Steep slopes present special problems. Sod is often used since seed and soil will wash away. But even if sod is used, maintenance is difficult, and mowing can be a serious hazard. Sometimes a slope can be broken by retaining walls or contouring.

Consider subsurface drainage

Subsurface drainage is seldom needed for home lawns. Tile is used only to solve special problems developing from seeps or depressions where the topography cannot be easily changed. The tile must be laid correctly to work properly. If it must be used, then a contractor who knows local conditions can provide an adequate system. Farm advisers and soil conservationists can furnish information on tiling installations and needs.

Check problem areas

Sometimes problem areas develop in the lawn after tile systems, gas lines, or other underground pipes are installed. These installations may not be made until after the finish grading. The soil left on the surface after an excavation may be of poor quality and tend to be drouthier than adjoining areas. This situation should not develop if the topsoil that was removed is returned to the surface. Areas that have been excavated should be allowed to settle properly before turf is established; otherwise depressions will occur.
Improve soil condition if necessary

In Illinois, the surface soil, if undisturbed, should produce a satisfactory turf with proper care. Although a lawn area can be improved by adding topsoil or by working sand, peat, or clay into the surface of the existing soil, these operations are usually quite expensive and are seldom necessary.

Sometimes subsoil remaining from an excavation is used to surface a lawn. Subsoil is often drouthy and of very poor quality. This problem can often be avoided by stockpiling topsoil when the excavation is made and then spreading it on the lawn area. A layer 4 to 6 inches thick is enough for turf.

Soils sold as topsoil are quite variable in quality. Some of them are poorer than the soil already on the lawn. It is also possible to bring in serious weeds with the topsoil.

Peat moss or clay can be added to sandy soils to improve their water-holding ability. But a nice lawn can be grown on sandy soils by using extra fertilizer and water and by selecting grasses recommended for sandy areas.

In some situations, 1 to 2 inches of sand, calcined clay, or similar material can be worked into heavy clay soils to improve their condition. Otherwise, lawns on heavy clay soils need a different maintenance program than those on good loam soils.

Test the soil

Before the soil is finally worked, it can be tested to determine its acidity (lime requirements) and the levels of certain nutrients. Then, as the soil is being prepared for planting, any necessary lime and fertilizer can be worked in deep enough to help keep the turf vigorous for several years. Once the lawn is established, the fertilizer can be applied only to the soil surface. Much of the fertilizer will stay in the surface soil and will have little effect on fertility levels in the lower root zone. Nitrogen, however, which grass needs in large amounts, will leach downward in the soil.

The soil should be sampled in several spots and a composite sample of about 1 cup sent to a testing laboratory. This should be done several weeks before final working of the soil, since it may take two weeks or longer to finish the testing. Several commercial testing facilities are in the state. You can get a list of them from county farm advisers, soil conservationists, or vocational agriculture instructors. These agriculture specialists can also help to interpret the test results and make specific cultural recommendations.

Work the soil

After the finish grading has been done, the soil can be worked (along with any fertilizer or lime called for by the soil test), and pre-
pared for planting. For a uniform stand of grass and a smooth, level lawn, the seedbed must be well worked and level.

Using a disk, rototiller, or other appropriate equipment, work the soil to a depth of 6 to 8 inches. The soil should form a fine seedbed, with only a few clods bigger than 1 inch in diameter. If large, hard clods are causing difficulty, it might be well to wait for a rain or to water the soil before finishing seedbed preparation.

**Use a starter fertilizer**

Whatever propagation method is used, a starter fertilizer will help get the lawn off to a good, fast start. The starter fertilizer should be worked into the soil to a depth of 1 to 2 inches. Either a rake or tilling equipment set to a shallow depth may be used. Complete lawn fertilizers, such as 10-6-4, 10-8-6, 10-10-10, or some similar analysis, will work very well at the rate of 15 to 20 pounds per 1,000 square feet. If a commercial fertilizer with some other analysis is used, follow the directions given by the manufacturer.

**PUTTING IN THE LAWN**

**Seeding**

The lawn should be seeded as uniformly as possible. Although this can be done by hand, it is better to use a spreader or good mechanical seeder (either broadcast or band type). When buying a spreader, re-

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**Amounts of Seed Recommended for Starting a Lawn**

<table>
<thead>
<tr>
<th>Grass</th>
<th>Approximate number of seed per lb.</th>
<th>Lb. of seed per 1,000 sq. ft.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kentucky bluegrass (all varieties)</td>
<td>2,500,000</td>
<td>2-3</td>
</tr>
<tr>
<td>Red fescue (chewings and creeping)</td>
<td>600,000</td>
<td>3-4</td>
</tr>
<tr>
<td>Bentgrass (colonial and creeping)</td>
<td>6,000,000</td>
<td>1-2</td>
</tr>
<tr>
<td>Tall fescue</td>
<td>250,000</td>
<td>4-5</td>
</tr>
<tr>
<td>Redtop</td>
<td>5,000,000</td>
<td>1-2</td>
</tr>
<tr>
<td>Perennial ryegrass</td>
<td>250,000</td>
<td>4-5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type of area</th>
<th>Grasses</th>
<th>Pct. of each</th>
<th>Lb. of seed per 1,000 sq. ft.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shady or sandy</td>
<td>Red fescue</td>
<td>75</td>
<td>3-4</td>
</tr>
<tr>
<td></td>
<td>Kentucky bluegrass</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>Steep slopes</td>
<td>Perennial ryegrass</td>
<td>75</td>
<td>3-4</td>
</tr>
<tr>
<td></td>
<td>Kentucky bluegrass</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>Sunny or slightly shaded</td>
<td>2, 3, or 4 Kentucky bluegrasses</td>
<td>50, 33⅓, or 25</td>
<td>2-3</td>
</tr>
</tbody>
</table>
member that it will probably be used only once for seeding, but will be used many times to apply fertilizer and pesticides.

To get even seed distribution, it is well to sow half the seed in an east-west direction and the other half in a north-south direction. As grass seed are small, they should not be sown on a windy day.

Amounts to seed of the various grasses and mixtures are given in the table on page 10. Figures are given in pounds per 1,000 square feet. The number of seed per pound is also indicated to give some idea of the number seeded per square foot or square inch, and also of the relative size of the seed.

After the seed has been sown, the surface should be raked or dragged to cover the seed. Generally a garden rake is used, but sometimes the seed, especially the smaller ones, can be covered enough by dragging the area with a door mat, a light board, or a wire drag. The larger seed, such as ryegrass or tall fescue, should be covered about 1/4 inch, while the smaller ones (redtop and bentgrass, for example) should be covered 1/8 inch. These depths are approximations, and even though raking or dragging will not cover the seed uniformly to the same depth, it will be satisfactory.

After the seed is covered, the soil should be rolled to help firm and level the lawn surface.

**Sodding**

Sod is sold by the square yard, usually in 18-inch width, although some 12- and 24-inch sod is also available. The sod should be laid as soon as possible after delivery. Although it may be stored for a few days in cool weather, it can be held only a very short time in warm weather, unless it has been pre-cooled.

The strips of sod should be butted together tightly. Joints should not fall together. The sod can be trimmed with a sharp spade to fit irregularly shaped areas. If the soil and sod are damp, the sod should be rolled with a lawn roller as soon after laying as possible. If the sod is not damp, soak it with water after laying it, let it dry out a little, and then roll it. To keep from tracking the newly laid sod, it is best to move from place to place on boards. A lot of labor is necessary to lay sod properly, and most sod is laid by professional landscape contractors.

Sod is used to patch areas in established turf. A board may be used to trim the sod to the necessary size. This will leave straight edges that will make it much easier to fit in the new sod.

**Plugging**

Plugs are sod pieces of uniform size, commonly 2 inches across. They are set flush with the soil surface, usually at 1-foot intervals, and the soil is packed tightly around them. Zoysia is commonly propagated with plugs, and bluegrass or bentgrass plugs are often used to patch dead or bare areas in established turf. Occasionally zoysia plugs are
set into existing grass. If this is done, it takes longer for the zoysia to provide complete cover than if a seedbed has been prepared.

The equivalent of 3 or 4 square yards of zoysiagrass sod is used for plugging every 1,000 square feet.

**Stolonizing**

Stolons or runners may be used to reproduce a grass when seed is scarce, or when the grass does not come true from seed. In Illinois, they are used to establish bentgrass turf, especially on golf greens. Bermudagrass is also sometimes reproduced by stolons.

The stolons are spread evenly over the soil and about \( \frac{1}{4} \) inch of sieved soil or top dressing is broadcast uniformly over them. The area is immediately rolled and watered. It is essential that the stolons be kept damp for the first two or three weeks after they are put out, or until they are well established. Stolons are sold by the bushel, and like sod should be put down as soon as possible after delivery.

You will need 8 to 10 bushels of creeping bentgrass stolons or 1 bushel of bermudagrass stolons per 1,000 square feet.

**Sprigging**

Sprigs may be individual plants, stolons, or small pieces of sod. To prepare for planting them, make slits, 2 or 3 inches deep and 6 to 12 inches apart, across the lawn area. Arrange the sprigs along the slits so that one-third of the stems are above ground, fill back the slits to soil level, and roll the ground. Bermuda sprigs will give good grass cover in a relatively short time.

You can buy material for sprigging by the bushel, or you can tear sod apart. It takes about 1 square yard of zoysia sod or 2 to 3 bushels of bermuda stolons for 1,000 square feet.

**CARE AFTER PLANTING**

**Weed control**

If a good management program is followed and a dense, healthy turf is maintained, weeds will not be much of a problem. Herbicides should be used as little as possible, particularly while the grass is becoming established.

**On seeded lawns.** Although chemicals should be avoided if possible on newly seeded, tender grass, an herbicide may sometimes be considered. It is more likely to be needed on a spring-seeded lawn than on a fall-seeded lawn because a freeze will kill off most of the weeds in a fall seeding. The first few mowings will eliminate most broadleaf weeds, but the grass weeds, as well as a few broadleaf ones, will persist even after mowing.

Do not use 2,4-D materials on any newly seeded lawn, and do not
use them on Kentucky bluegrass until after it has been mowed a few times. Certain of the new crabgrass-control chemicals, such as siduron, may be used on newly seeded Kentucky bluegrass, as well as certain other grasses.

Pre-emergence chemicals (applied before the weeds come up) may be useful on spring-seeded lawns to keep down crabgrass during the first year. Before using one of these chemicals, check the label to make sure that the material is recommended for newly seeded turf. The chemical will be applied after the seed is covered. The soil should then be disturbed as little as possible.

**On sodded lawns.** One advantage of a sodded lawn is its freedom from weeds the first year or so. If a good-quality sod is laid properly and is given good care, a weed problem should not develop at all.

Occasionally some crabgrass, foxtail, or broadleaf weeds may come up, especially where the strips of sod were joined together. Crabgrass or foxtail can usually be controlled in Kentucky bluegrass sod by spot treatment with a post-emergence (after the weeds are up) herbicide, such as DMA or AMA. Most of the broadleaf weeds can be controlled with 2,4-D amine.

**On stolonized, sprigged, or plugged lawns.** Both the amount and method of control will depend in part on the grass being grown. Bermudagrass usually grows rapidly enough from stolons or sprigs to keep weeds from becoming a serious problem. The short height to which bents are cut helps to keep some weeds from becoming troublesome.

Hoeing or pulling the weeds will often control them enough that they do not seriously compete with the desired grasses. Occasionally fumigants are used before setting out stolons, sprigs, or plugs.

**Mulching**

Although mulching will help to conserve moisture and reduce erosion, it is not often recommended for a new lawn, particularly on level land. It may be considered for steep slopes that have not been sodded. In recent years, however, sod has been commonly used on steep slopes and other problem areas (where drain spouts come down from the house gutters, for example).

Straw, burlap, and glass fiber are a few of the materials available for mulching. If straw is used, a layer ⅛ to ½ inch thick is spread out and is weighted down with a little soil or fencing, or laced down with twine. If straw isn’t held down in some way, it will blow off and litter the neighborhood. Other materials should also be staked down.

Weed seed may be brought in with straw. Diseases may also become a serious problem when a straw mulch is used, especially if a rainy period sets in.

If a mulch is not used, careful irrigation of a slope will help get a good stand of grass in a short time and reduce the likelihood of erosion.
Watering the grass

Although a lawn can be established without extra water, it will get started much faster with a good watering program, thus reducing or even eliminating some of the problems associated with a poor stand of grass.

**A seeded lawn.** A newly seeded lawn needs to be watered frequently and lightly. The amount of water to apply will vary with several factors such as soil type, wind velocity, temperature, and the lawn’s exposure to sun.

In general, a light watering two or three times a day for the first three or four weeks should be adequate. More waterings may be needed on a hot, windy day. After the grass has been in for three or four weeks and has become fairly well established, one to two waterings a day should be adequate. As the grass grows, waterings should become fewer and heavier. By the time the grass has been mowed the first time, ½ inch of water every two to four days should be adequate.

**A sodded lawn.** Improper watering is the main reason for failure of newly sodded lawns. The sod should be soaked thoroughly just as soon as it is laid. After watering, a strip of sod can be turned back to make sure that sod and soil have been soaked.

When the weather is hot and dry, the sod should be watered daily for a short time. In cool weather the newly laid sod may not have to be watered more than once every two or three days. After the sod has been down for a couple of weeks, pull up a corner of a strip to see how well the sod has knitted. If it has knitted well, the grass will need to be watered only once in seven to ten days, or just often enough to keep the grass green. The soil should be wet 5 or 6 inches deep at each watering. The depth of watering can be determined by digging in a flower bed or other cultivated places that were watered with the lawn.

**A stolonized, sprigged, or plugged lawn.** As soon as possible after stolons have been put down, apply a uniform amount of water over the entire lawn area. The need for moisture during the first few weeks is perhaps even more important for a stolonized lawn than for a seeded lawn. Two to five or more light waterings are usually needed every day, the exact number depending, of course, on weather conditions and physical features of the area.

Because sprigs and plugs are set an inch or more into the soil, they don’t need to be watered as often as stolons do. If the soil has been packed around the sprigs and plugs right after planting and then watered a few inches deep, the area will usually need watering only every other day or so. Little harm should result if the soil surface dries, but the soil should not be allowed to dry more than a fraction of an inch deep. After a few weeks, the lawn can be handled like an established turf.
Leveling the new lawn

If a lawn was started on a firm, smooth area, it will usually be smooth enough unless the grass is to be kept quite short. Judicious use of topdressing and a roller will help to smooth out a lawn if necessary.

A seeded lawn. A lawn started from seed may occasionally be rough and need leveling. This is especially likely to be true of fall-seeded lawns, where frost may cause heaving the first year. Use of a light roller (about 100 pounds weight per foot of roller width) will usually remedy the situation. The lawn should be fairly dry when it is rolled so that the soil will not be compacted too much.

On occasion, topdressing with a sieved soil may smooth the lawn. The topdressing should be applied in shallow layers (1/4 inch or less deep) so as not to bury and kill the grass. Topdressing is especially useful in leveling small, localized depressions.

A sodded lawn. If a sodded lawn has been put in properly, it should be smooth. A lawn that is not smooth enough may be lightly rolled when the lawn is damp, but not wet.

A stolonized, sprigged, or plugged lawn. Stolonized bentgrass is usually smoothed out for short mowing by using a light lawn roller, and by topdressing. When topdressing, be careful to work the sieved soil down around the stolons so that the grass is not covered. A metal door mat or a light wooden or wire drag may be pulled back and forth over the area after a light topdressing has been spread on the grass.

Either a roller or topdressing, or both, can be used on sprigged bermudagrass or zoysiagrass to keep it level. An occasional rolling on plugged areas should push the plugs down into the soil and keep the surface smooth.

Mowing a new lawn

To be attractive, the lawn should be mowed properly from the very beginning. Many poor lawns are the result of poor mowing practices and equipment. A rotary or reel mower that is sharp and in good repair will do a satisfactory job. A good mower is especially important for a turf that is to be kept short.

The proper height of cut varies with different grasses (see table on page 16). A grass that is to be cut rather high will not be noticeably affected if the height of cut is varied by a fraction of an inch. This much variation could be serious, however, for grasses that are cut short. The mower can be set to the proper height by placing it on a level sidewalk or driveway and adjusting the cutting edge up or down as desired.

A lawn should be cut often enough that no more than a third (better a fourth, or less) of the grass is removed. Thus a Kentucky
bluegrass turf to be kept at a height of 2 inches should be cut at least by the time it reaches 3 inches, with 1 inch, or one-third, of the grass height removed by mowing.

Seeded lawns. A seeded Kentucky bluegrass lawn should be mowed as soon as a mower set to the desired height will cut the grass. On a bentgrass lawn that is to be cut short (¼ inch or a little more) the mower should be set higher (around ½ inch) and lowered gradually over a period of two or three weeks until it is at the desired height. The soil surface should be dry enough that the lawn will not track.

Sodded lawns. After the mower is adjusted to the proper height, the grass from sod can be treated as an established turf and mowed as recommended above. Sodded areas should be firm enough to support the mower and person doing the mowing without tracking.

Stolonized, sprigged, or plugged lawns. A stolonized or sprigged lawn requires virtually the same mowing procedures as a seeded lawn, while lawns started from plugs are handled much as a sodded lawn.