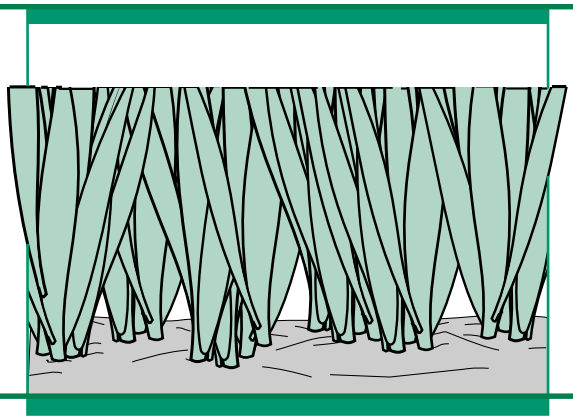
BERMUDAGRASS LAWNS

Turfgrass



Bermudagrass has many desirable qualities fitting today's turfgrass needs and environmental concerns. It is the primary turfgrass in the southern United States and is widely used in Kansas. The potential for water savings with bermudagrass has caused a considerable increase in its use.

Bermudagrass has several positive attributes. It is a durable, heat and drought resistant warm-season grass that requires less water than most other grasses. This grass forms a medium-green, dense, low-growing turf with a medium-fine texture. Bermudagrass is quick to recover from wear injury; thus, it is well-adapted for heavily used areas. Compared to buffalograss, bermudagrass is equal in heat and drought tolerance and water requirement, but it forms a denser, greener, more wear- and weed-resistant turf. However, it does require more fertilizer and mowing than buffalograss.

Care and Management Summary*

Varieties	Vegetative types (establish from sod, plugs or sprigs): Midlawn (best winter hardiness) Seed types (established from seed): Guymon, Cheyenne and Sun Devil (intermediate winter hardiness) Common (not winter hardy)
Planting	Mid-May–July Seed: 1.5–3 lb. / 1,000 sq. ft. Sod: 111 sq. yd. / 1,000 sq. ft. Plugs: 1,000 / 1,000 sq. ft. (3+ yd. of sod required) Sprigs: 5–15 bu /1,000 sq. ft.
Mowing	1 inch tall for dense, even turf, cut twice a week 1 inch for average, cut once a week 2 inches for low maintenance grass, cut every 10 days
Watering	Soak soil 6–8 inches deep at first signs of wilting; wait for signs of wilting before watering again. Water only during hot, dry weather
Fertilizing	May–August, 1 lb. actual nitrogen per 1,000 sq. ft. per application; 2–4 spaced applications depending on level of maintenance desired
Weeds	Control dandelion, chickweed, henbit, and other broadleaf weeds in the fall. Apply pre-emergence herbicide in the spring when redbud trees are reaching full-bloom to prevent crabgrass

*See text for more detailed information

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Bermudagrass adapts to a wide range of soil types and has a deep, vigorous root system. Creeping stems growing above and below ground form a dense, erosion-resistant sod. This is valuable on hot, south-facing slopes where other grasses often fail. Also, because of its low growth habit, bermudagrass adapts to close mowing in highly maintained areas.

Bermudagrass grows best in hot, sunny areas where cool-season grasses are difficult to maintain. It is not a shade-tolerant grass, but a few hours of shade each day will not result in a noticeable decline in quality. However, as shade increases, bermudagrass will decline in quality and density.

On the negative side, bermudagrass is difficult to keep out of flower beds and gardens because of its aggressive growth habit. Also, because it is a warm-season grass, it greens up later in the spring and turns brown earlier in the fall than cool-season grasses such as tall fescue or Kentucky bluegrass.

Recommended Varieties

Most bermudagrass varieties on the market are developed in the South and are not adapted to Kansas. It is important to select a cold-hardy variety that will survive Kansas winters. Midlawn, a new variety developed by Kansas State University, is the most cold tolerant lawn variety on the market and is especially well-adapted to Kansas conditions.

Bermudagrass is sold by seed or sod depending on the variety. Most seeded varieties are produced in southwestern states and do not survive cold Kansas winters. However, several seeded varieties such as Guymon, Cheyenne and Sun Devil have improved cold tolerance and can be grown in the southern half of the state.

The best bermudagrasses are the vegetative types that must be planted by sod, plugs, or sprigs. Because of their hybrid breeding, they either produce sterile seed or seed unlike the parent plant. Although seed varieties are easier and more convenient to establish, they result in a coarser, less uniform turf that may winter kill.

Planting

Because bermudagrass is a warm-season grass, it establishes best after the soil and air temperatures are warm and there is no longer a danger from spring frost. Mid-May through July is the best time for planting. Later plantings may not completely fill in before winter, while earlier plantings are slow to establish and often are taken over by weeds.

The soil should be prepared several weeks before it is time to plant. Soil preparation is the same whether using seed, sod, plugs or sprigs. The first step is to test the soil to determine if any of the essential nutrients are deficient. Information on how to take soil samples for testing can be obtained at your county Extension office or a private soil testing lab. Prices will vary among labs and also depend upon how extensive a test is requested.

Grade the soil surface so it drains away from the house and blends with the surrounding terrain. Do not leave low spots where water will stand. After grading, till the soil as deeply as possible (it is often difficult to till deeper than 8 to 12 inches) incorporate recommended nutrients from the soil test. After tilling and incorporating nutrients, a final finish grading is needed.

Sod is the quickest but most expensive method used to establish a bermudagrass lawn. After it is placed onto prepared soil, one has an instant lawn. However, frequent watering is needed until the sod roots into the soil. Approximately 111 square yards of sod are required for 1,000 square feet of lawn area.

Sod can be cut into 2 × 2-inch square, or 2-inch diameter round sections called plugs to make it go farther. A yard of sod will make 324 2 × 2-inch square plugs. Ask your supplier to cut them, because it is a difficult task. Plugs planted 12 inches apart will grow together in one season unless they are planted late. Three and one-third square yards of sod will provide enough 2-inch plugs to plant 1,000 square feet of lawn area. Weeds likely will grow in the bare soil between the plugs until a dense turf is formed, but can be controlled either by hand removal or herbicides. After weed control, mow the bermudagrass to encourage faster spreading so the plugs will fill in.

Sprigging is a method of planting stems from shredded turf in shallow furrows. This method is less commonly used because of the amount of work involved in planting. Stolonizing is an alternative method where the sprigs are scattered on the soil surface and covered with topdressing.

If using a seeded variety, broadcast the seed on prepared soil with a fertilizer spreader, rake lightly and water in. Applying a thin layer of weed-free straw over the soil surface will protect the seed and speed up germination.

Seeding rates depend on the kind of seed purchased—hulled, unhulled or coated.

Suggested Seeding Rates

Form of seed	Seeds/lb.	Seeding rate/ 1,000 sq. ft.
Unhulled	1.6 million	1.5–2.0 lb.
Hulled	2.1 million	1.0–1.5 lb.
Hulled-coated	1.0 million	1.5 –2.0 lb.
Unhulled-coated	less than 1.0 million*	2.5–3.0 lb.

*Variable depending on coating method

With all methods of planting, it will be necessary to keep the soil moist until the grass is established. Keep weeds under control and begin mowing as soon as the grass becomes tall enough to mow.

Maintenance

Mowing, watering and fertilizing are the fundamental cultural practices forming the foundation of a lawn maintenance program. Each cultural practice affects the other. For example, increasing the amount of

fertilizer also will increase the amount of mowing and watering required.

You must decide on the quality of lawn you want, as well as the amount of work you are willing to expend on your lawn. Is it more important to have a low maintenance lawn or a show lawn? A good quality lawn is possible with a reasonable amount of maintenance, but it must be done in a timely and correct fashion. It is important to follow a planned, complete program based on recommended maintenance practices.

Mowing. Select a mowing height based on your maintenance level. Bermudagrass can be mowed anywhere from ½ to 2 inches. When mowed twice a week at 1 inch with a reel mower, bermudagrass forms a dense and even turf. Mowing at 2 inches results in less maintenance, requiring mowing only once every 10 days or so. Also, higher cut turf does not need to be watered as much and is more resistant to weeds. When mowing, don't remove more than one-third of the foliage. Cutting too much foliage will put the grass in shock and result in a stemmy turf. The shorter you keep the grass, the more often you will need to mow.

Keep the mower blade sharp so the mower cuts the leaf tips cleanly. This is especially important when mowing a newly planted turf. When mowing higher than 1 inch, use a rotary mower. If you prefer a shorter lawn (1 inch or less) a reel mower will be required. It is not necessary to collect clippings if you mow frequently enough—the clippings will filter into the turf where they quickly decompose and return nutrients to the soil.

Watering. Bermudagrass is drought resistant and does not need as much water as fescue. Don't water on a calendar basis; rather, monitor the turf and the soil. Water when it is hot and dry, watching for signs of wilting. The onset of wilting is accompanied by a change in turf color to a bluish-gray cast.

When watering, soak the turf thoroughly to a depth of 6 to 8 inches. Avoid light, frequent watering (except on newly-planted lawns) because it causes shallow rooting. Try to water in the morning when the temperature is cooler and it is less windy.

Fertilizing. The amount of fertilizer used sets the level of turf maintenance. If only 2 pounds of actual nitrogen per 1,000 square feet are applied during the season, less watering and mowing will be required. Applying 4 pounds of actual nitrogen fertilizer per 1,000 square feet will produce a dark green color, but more mowing and watering will be required.

Many types of fertilizers are available. The only way to know which analysis is appropriate for your lawn is to have your soil tested. Fertilizer can be applied in either liquid or granular form. Both are effective, the only difference between them is the method of application. There are two types of fertilizer spreaders–rotary spreaders which throw the fertilizer in a wide pattern, and drop spreaders. The drop method can be more accurate, because it drops the fertilizer between the wheels of the spreader, although it takes longer to cover the lawn.

Fertilizer should be applied May through August. Put only 1 pound of nitrogen fertilizer per 1,000 square feet on the lawn at a time; more may cause excessive growth. The grass foliage should be dry at the time of application to avoid fertilizer burn. Be careful when applying fertilizer—ensure the correct amount is uniformly applied. An uneven application will cause streaks in the lawn.

Thatch. Bermudagrass has a tendency to form thatch. Thatch is a layer of decomposing organic matter that looks somewhat like peat moss. It is located between the soil surface and the grass foliage and is made up of surface roots, stems and runners. Thatch buildup occurs when organic matter is produced faster than soil microorganisms can decompose it.

Thatch can be beneficial or detrimental to the lawn. When thatch is excessive, water, nutrient and pesticide movement into the soil can be restricted. Roots form in the thatch instead of penetrating deep into the soil, making the turf less drought resistant. Thatch also provides a habitat for disease or organisms and insects.

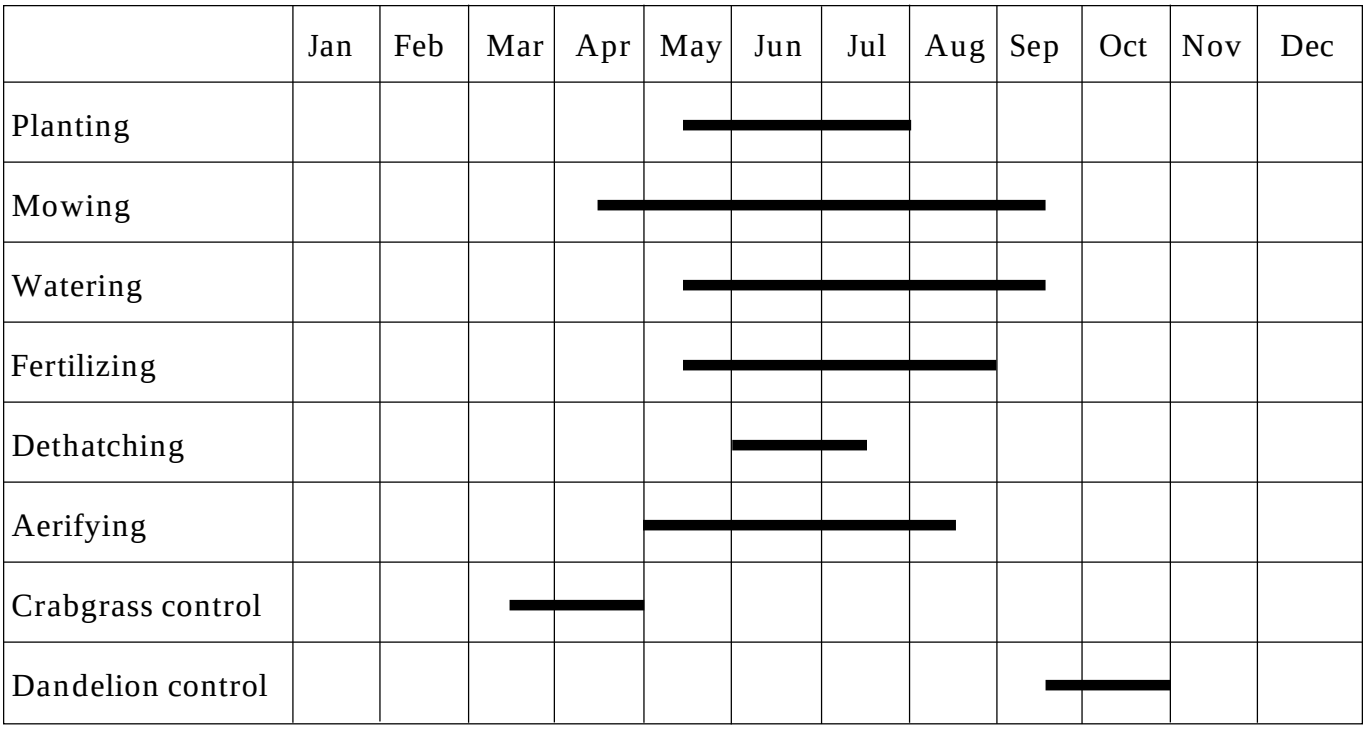
To determine the amount of thatch in a lawn, cut a small wedge of turf down into the soil with a knife. If the layer is greater than ½ inch, the thatch should be controlled. The best times for thatch control are June or July when the bermudagrass is actively growing.

There are two types of power equipment for thatch control—core aerifiers and power rakes. Equipment can be rented, or you can hire a professional service. A core aerator is a machine that pulls cores out of soil. These cores usually are about ¾ inch in diameter, 2 to 3 inches deep, and about 3 inches apart. The plugs are beneficial to the lawn and should be left to decompose. Decomposition of the plugs could take several weeks, depending upon the type of soil. Alternatively, the thatch can be removed by power raking. However, this method is more destructive to the lawn, and produces debris that will have to be removed.

A new lawn will not have thatch, as it takes several years for it to build up. But once a lawn is established, there are some measures a homeowner can take to prevent thatch. Avoid applying excessive amounts of nitrogen fertilizer. Turf that is growing faster produces more thatch. Water as deeply and infrequently as possible, without stressing the grass. This helps produce a deeper root system; shallow-rooted lawns develop more thatch.

Weeds. Bermudagrass is fairly resistant to weeds, however there are occasional problems if the turf is thin. Weed invasion of bermudagrass occurs primarily in early spring and late fall when the grass is dormant and unable to compete with the weeds. The most common weed problems are dandelion, chickweed and henbit. It is best to control these weeds in the fall when they are young. Use an herbicide labeled for the particular weed being sprayed. By spring, weeds are established and more difficult to control. Additionally, chickweed and henbit are winter annuals that will die in the summer when bermudagrass is vigorously

Bermudagrass Maintenance Calendar



growing. Therefore, spring applications of herbicides to those weeds are wasteful.

Spring weed control largely consists of preventing crabgrass by using a preemergence herbicide. This should be applied at about the time when redbud trees are in full-bloom, or are beginning to leaf out. Unknown weeds should be taken to your county Extension office for identification so you can purchase the correct herbicide and apply it at the right time.

Insects. Bermudagrass is not particularly susceptible to insect problems. As with all turfgrasses, however, grubs can be a problem. If unsure of an insect, have it identified to ensure proper control. Pesticides should not be routinely applied for insect control; use them only when insects are actually damaging the turf. K-State Research and Extension has several publications available on turfgrass insect control.

Disease. The main disease concern with bermudagrass is a fungal disease called spring dead spot. This disease causes round patches of dead grass 6 inches to 1 foot in diameter in the spring. The best prevention is to use a variety that has some resistance to this fungus. The more cold-hardy varieties seem to be the most resistant, although they can be affected. To prevent other diseases, maintain a healthy turf by following proper watering, fertilizing and mowing techniques.

Remember, when using pesticides follow all safety and application instructions on the label.

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