

Centipedegrass Lawns

Centipedegrass (*Eremochloa ophiuroides*) was introduced into the United States in 1919 from China and is sometimes referred to as “China grass” or “Chinese lawngrass.” Centipedegrass is a slow-growing perennial turfgrass that spreads by stolons (above-ground stems) that resemble centipedes, hence the name centipedegrass. The popularity of centipedegrass as a home lawn turfgrass is due to its low maintenance requirements and its adaptation to either full sun or partial shade conditions. It is adapted for use as a low-maintenance, general-purpose turfgrass. Centipedegrass is the ideal turfgrass for anyone who wants a fairly attractive lawn that needs limited care and maintenance. It typically requires little fertilizer or lime and less mowing than other turfgrasses do. Excessive fertilization and lime to established centipedegrass has resulted in the loss of turfgrass and appears to be one of the causes of centipedegrass decline. In fact, centipedegrass is at its best with little maintenance other than mowing and watering!

Characteristics of Centipedegrass

In appearance, centipedegrass resembles St. Augustinegrass, but it is finer in texture. Texture refers to the size of the leaves, and the leaf blades of centipedegrass are of medium width and are finer (smaller) than St. Augustinegrass but coarser (larger) than bermudagrasses or zoysiagrasses.

Centipedegrass spreads by thick, aboveground stems called stolons that lie flat against or on the soil surface. The stolons have short internodes and will root at these internodes, thus developing a good leaf canopy and thick lawn. Centipedegrass produces little thatch if it is managed properly (low fertility), so it is not subject to scalping or other mechanical injuries. Centipedegrass does produce seed heads; however, these can be easily managed with routine mowing.

Due to the slow growth habit of centipedegrass, it does not recover from injury as quickly as bermudagrass does, and it is not as wear-resistant as either bermudagrass or zoysiagrass. Unlike bermudagrass, the spreading growth of centipedegrass stolons into adjacent flower and ornamental beds is not much of a problem and is relatively easy to control with edging. Edging once a year is usually adequate.

Centipedegrass is more shade-tolerant than bermudagrass, but it is less shade-tolerant than St. Augustinegrass or zoysiagrass. In addition, centipedegrass has good drought tolerance and can be established from either seed or vegetative plantings (plugs, sprigs, or sod). Centipedegrass has a number of disadvantages. It has poor low-temperature tolerance and is susceptible to winter kill during extremely cold winters. It does not tolerate traffic, soil compaction, high-phosphorous soils, low-potassium soils, high soil pH, excessive thatch, salt, or heavy shade. Centipedegrass is also susceptible to several pests.

Varieties of Centipedegrass

Improved varieties of centipedegrass are available, including Oklawn and Centennial; however, these must be vegetatively propagated and are selected specifically for their improved cold tolerance. Of course, common centipedegrass is the most “commonly” used variety, and it can be established by either seeding or vegetative plantings.

Establishing Centipedegrass

Centipedegrass can be established by either seeding or vegetative plantings, including plugging, sprigging, or sodding. Proper seedbed preparation of the lawn area before planting is critical to ensuring successful establishment. Centipedegrass is best adapted to a soil with a pH of 5.0 to 5.5. Severe iron chlorosis (yellowing) may occur if the soil pH is above 6.5. Lime is seldom applied to centipedegrass. Soil pH adjustments should be made before planting.

Seeding

Centipedegrass seeds are expensive, but the seeding rate is low, and this method of establishment is probably cheaper than vegetative plantings if time and labor are considered. Seed quality should be considered when purchasing seed for planting. It is recommended to purchase only centipedegrass seed with a purity of 90 percent or better and a minimum germination rate of 85 percent.

The suggested seeding rate for centipedegrass is $\frac{1}{4}$ to $\frac{1}{2}$ pound of seed per 1,000 square feet of lawn. Since centipedegrass seeds are extremely small (600,000 seeds per pound), best results are obtained by mixing 20 pounds of dry sand with 1 pound of centipedegrass seed and spreading this “seed mix” on the lawn. It is recommended to apply half of the seed in one direction and then apply the remaining half of the seed perpendicular to the direction of the first application. This will ensure a more even distribution of the seed.

The best time to plant centipedegrass seed is from April to July. This provides a full growing season for the seed to germinate and become established before the onset of cold weather to minimize the chance of cold weather injury.

Centipedegrass seed is naturally slow to germinate (2 to 3 weeks); therefore, it is important to mulch or use some other means to prevent soil erosion and potential loss of seed and/or seedlings.

Sodding

Planting centipedegrass by sodding is initially more expensive than seeding, but sodding produces an “instant” lawn. For best results, use only high-quality sod that is free of weeds and diseases. Lay the sod pieces tightly together to avoid large cracks in the turfgrass. Water the soil surface to wet it thoroughly before laying the sod. After laying the sod, water it thoroughly, and roll over it with a lightweight roller to ensure firm contact between the sod and the soil and to smooth the sod. Water the entire lawn or sodded area at least once a day, using approximately $\frac{1}{2}$ inch of water per irrigation. Once the sod has become rooted and established, water only as needed. The optimum time of the year to sod centipedegrass is in the spring and summer months, during the optimum growing conditions for this type of turfgrass.

Sprigging and Plugging

Planting centipedegrass using sprigs or plugs is as effective as seeding but requires more labor and time. Sprigging refers to the planting of individual centipedegrass stolons, or “runners,” which are basically stems of the centipedegrass plants. Sprigging generally requires more irrigation or watering than plugging does since the sprigs have no soil attached. Sprigging can be done by hand or using mechanical sprigging machines. Sprigs are usually broadcast-applied to the soil surface. Hand-shake approximately 10 bushels of sprigs per 1,000 square feet of lawn area. If possible, “cut-in” the sprigs, using a small disc harrow, to place the sprigs in a furrow in the soil. Next, apply a light topdressing of soil and/or sand over the top of the sprigs, and roll it to ensure good soil-to-sprig contact. After sprigging, keep the lawn moist until the centipedegrass has initiated new growth and become established or rooted.

Plugging refers to the planting of pieces of centipedegrass sod. In plugging, centipedegrass sod is cut into circular or rectangular pieces that are 2 to 4 inches in diameter. These “plugs” are typically set or planted in rows that are spaced 12 to 24 inches apart. The distance between plugs can vary, but remember that the distance between the plugs will affect the length of time required for grow-in and establishment of the turfgrass. As with sprigging, water as soon as the plugs have been planted, and keep the soil moist until the centipedegrass has become well rooted and established.

Fertilizing

Proper fertilization of centipede grass is very important to its survival. Centipede grass often fails as a result of too much fertilizer, especially nitrogen. Centipede grass has a natural “crabapple green” color, and many homeowners want a darker-green-colored lawn. To try to accomplish this, they apply additional fertilizer to make the centipede grass darker or closer to the natural color of either bermudagrass or zoysiagrass. Overfertilizing centipede grass will make it darker and will stimulate leaf growth, but it reduces its quality and makes it more susceptible to cold weather injury, causing long-term maintenance problems. DO NOT overfertilize centipede grass with nitrogen to equal bermudagrass or St. Augustine grass color! The fact is, the quality of lawn produced by centipede grass is generally lower than that of the finer-textured bermudagrasses and zoysiagrasses.

Only small amounts of nitrogen are needed for centipede grass. A single application of fertilizer each summer provides adequate nutrients under most conditions. Because centipede grass is sensitive to frost damage and cold weather injury, it is recommended to delay fertilizer application in the spring until May 1. Applying nitrogen fertilizers to centipede grass in the early spring stimulates rapid growth and makes the turfgrass more susceptible to damage and injury from cold weather. The maximum recommended amount of nitrogen fertilizer that should be applied to centipede grass during the year is 2 pounds of nitrogen per 1,000

square feet of lawn area. The fertilizer can be applied in either one or two applications during the year. If two applications are preferred, it is recommended to make the first application in June and the second application in August or September. If a single application is desired, apply the fertilizer in June.

Always apply an amount of potassium that is equal to or higher than the amount of nitrogen. Increased potassium levels will increase the centipede grass’ tolerance to stresses such as cold temperatures and drought. A good all-purpose fertilizer for centipede grass lawns is a 15-0-15 or 18-0-18. These fertilizers do not contain any phosphorus, which may react with iron in the soil and render it unavailable.

Soil tests should be performed every 2 to 3 years to determine lime, phosphorus, and potassium needs. This will help you maintain the soil pH at a favorable level (5.0 to 5.5) for centipede grass and also to maintain the phosphorus and potassium levels needed for healthy turfgrass growth. Too much lime or fertilizer can be harmful to centipede grass. In particular, phosphorus can build up and can bind with iron in the soil, making the iron unavailable to the centipede grass. One of the common problems associated with centipede grass is a mottled yellowing called chlorosis, which is usually caused by this iron deficiency. This condition is most severe where soil pH is high (greater than 6.5) or where there is excessive calcium or phosphorus in the soil. Avoid overusing phosphorus-containing fertilizers unless the

soil test results indicate a deficiency.

Iron chlorosis can be controlled. Correcting or lowering the soil pH can make more iron available for the centipede grass to use. If controlling soil pH is not feasible, or if the soil is naturally deficient in iron, it may be necessary to apply iron sources. Centipede grass responds well to supplemental applications of iron. Chelated or ferrous sulfate iron can be applied evenly and easily using a hose-end applicator. Apply the ferrous sulfate iron at a rate of 2 fluid ounces per 1,000 square feet of lawn area. Consult the label of chelated iron sources for use and rate recommendations.

Irrigating

Centipede grass endures drought conditions quite well. It may turn brown from lack of water, but it will green-up again quickly with rainfall or irrigation. Irrigation is required to keep centipede grass uniformly green all summer. It is recommended to water centipede grass on an as-needed basis, provided the amount of water is applied when needed and not at a later or more convenient time. The proper amount of water will vary depending on each lawn; however, it is recommended to water deeply rather than frequently.

Mowing

As with any turfgrass, centipede grass quality will be improved with the correct mowing height and frequency. Centipede grass should be mowed at a mowing height between 1 and 1½ inches. The mowing frequency should be such that no more than 30 percent of the leaf area is removed at any one mowing. Increase the mowing height during periods of drought stress. Use a sharp and well-adjusted rotary mower.

Mowing centipede grass at a mowing height below 1 inch repeatedly will reduce the density of the lawn and thin out the turfgrass. Mowing too high and too infrequently will also be detrimental to the centipede grass lawn by allowing for the accumulation and buildup of thatch, which can lead to injury from cold weather exposure and drought stress.

Centipede Grass Decline and Winter Kill

Centipede grass decline refers to a condition in which established lawns develop large dead patches of turfgrass or begin turning yellow (chlorosis) in the spring. Numerous conditions may contribute to centipede grass decline, including excessive nitrogen fertilization, high soil pH (greater than

6.5), excessive thatch accumulation, nematodes, and diseases.

Winter kill is another problem with centipede grass. Centipede grass can survive well in the south, but it is sensitive to low temperatures and can be discolored by frost and sometimes killed by cold weather. The winter kill of centipede grass lawns or portions thereof is common in Alabama from the Gulf Coast to Decatur. This winter kill is erratic and confusing to homeowners who may see total devastation of their lawn while the neighbor's centipede grass lawn is "picture perfect." Many factors are related to this winter-kill phenomenon, including fertilization practices, amount of shade, soil type, elevation, and a north-facing versus south-facing slope.

Pest Problems

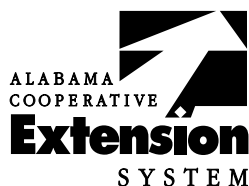
Centipede grass can become damaged by several pests including nematodes, insects, and diseases. These pests can become particularly serious in centipede grass that has been overfertilized. Nematodes can be a most serious problem on centipede grass, especially ring and sting nematodes. Areas of nematode infestation and damage will appear severely wilted, even when they are well watered. If nematode damage is suspected, it is recommended

to collect a soil sample from the margin of the affected area and send it to the Plant Diagnostic Laboratory at Auburn University for inspection and analysis.

Several insect pests may cause damage to centipede grass as well. Of these insects, the hardest to control is the ground pearl, which is a type of scale insect. At the present time, there are no effective insecticides to control ground pearls. Other insect pests that will damage centipede grass lawns are lawn caterpillars, white grubs, mole crickets, spittlebugs, and sod webworms.

The principle disease that affects centipede grass is brown patch, but dollar spot can also be a problem. Both of these diseases can be controlled readily with fungicides.

Weeds can easily invade newly established centipede grass due to its slow growth habit; however, once established, centipede grass crowds out many weeds. If weeds become a problem, certain herbicides can be applied to centipede grass without injuring the grass; however, some herbicides that are used on other turfgrasses may be harmful to centipede grass. Consult your county Extension office for more information about pest control.



Your Experts for Life

ANR-73

Jeffery M. Higgins, Turfgrass Specialist, Assistant Professor, Agronomy and Soils, Auburn University

For more information, call your county Extension office. Look in your telephone directory under your county's name to find the number.

Issued in furtherance of Cooperative Extension work in agriculture and home economics, Acts of May 8 and June 30, 1914, and other related acts, in cooperation with the U.S. Department of Agriculture. The Alabama Cooperative Extension System (Alabama A&M University and Auburn University) offers educational programs, materials, and equal opportunity employment to all people without regard to race, color, national origin, religion, sex, age, veteran status, or disability.

UPS, 15M07, **New May 1998**, ANR-73