

LOUISIANA LAWNS

FACT SHEET

THE CENTIPEDE DECLINE PROBLEM

Centipedegrass (*Eremochloa ophiuroides*), a popular lawn grass in Louisiana, is a low-growing, medium-textured, aggressive grass that will produce a dense, attractive turf. Its popularity is due to ease of establishment and low maintenance requirements. Centipede does not require much fertilizer or mowing, and it's relatively resistant to most insects and diseases. Although centipede is a low maintenance grass, proper management is still important.

Centipede's low maintenance requirements give the homeowner a false sense of security, and turf is often neglected. The very features that make centipede an attractive choice for homeowners often lead to mismanagement problems and a decline in the grass.

Each spring, some Louisiana homeowners encounter a problem referred to as "centipede decline." Once established, the grass does well until the third to sixth year. Then areas of turf either fail to green-up in the spring or begin to grow and die in late spring and summer. Many factors may contribute to this complex problem. It's important to be aware of these factors so preventive or corrective steps can be taken.

CENTIPEDE DECLINE FACTORS

Factors that contribute to centipede decline include improper plant nutrition, cultural practices, and soil and water conditions.

Plant Nutrition: The nutrient requirements of centipede are quite different from those of most other lawn grasses except for carpetgrass. An acid soil with a pH of about 5.5 is preferred. As the pH goes above 6, iron (Fe) availability decreases. Iron is essential to produce chlorophyll (the green color in plants), and iron deficiency causes the grass to become chlorotic, or yellow. High phosphorus and calcium levels in the soil also cause iron to be tied up, resulting in chlorotic symptoms.

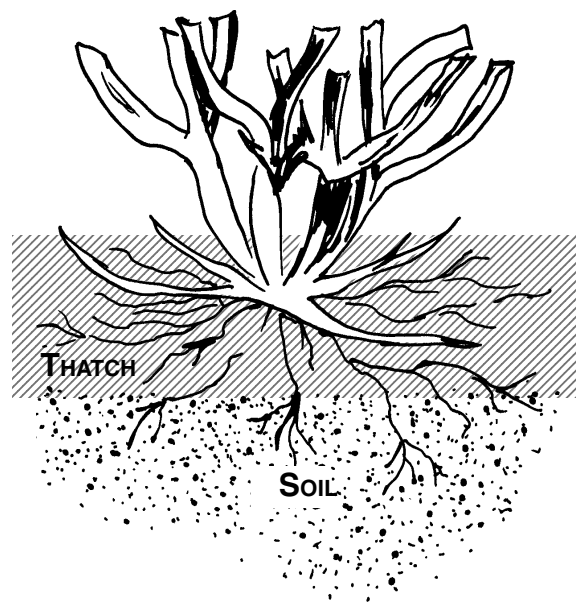
Centipede naturally is lighter green than most other lawn grasses. It will become dark green with excessive nitrogen applications, but this usually results in severe winter injury and thatch or pest problems.

Soil and Water Conditions: Good growth of centipede depends on a deep root system. The weaker and less extensive the root system, the more subject the grass is to drought stress and winter injury. In extreme cases, the root system may be so weakened that the grass will die, even during

favorable summer weather. During dry weather, roots do not deeply penetrate even sandy soils that have a hard compacted layer just below the soil surface.

Thatch buildup: Thatch is an accumulation of undecomposed, surface organic matter. It is formed primarily from slow rotting dead stems and runners and accumulated clippings. New runners (stolons) grow on top of the thatch, and roots don't penetrate into the soil as deeply. Therefore, they are exposed to low temperatures and are more subject to drought. If proper mowing practices are followed and soil is not strongly acidic, grass clippings will not promote thatch buildup.

A soft, spongy lawn usually indicates excessive thatch accumulation. This thatch reduces water infiltration, creates shallow-rooted turf, encourages winter injury, promotes pest problems and makes mowing difficult.



WHAT TO LOOK FOR

Diagnosing lawn problems can be difficult. Familiarity with the factors involved in centipede decline will help isolate your specific problem.

Ask yourself these questions, and then read on to obtain the answers.

1. Did the living grass show a definite yellowing or chlorosis as it came out in the spring or when it went into dormancy in the fall?



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Take a soil sample for pH and fertility analysis to confirm a pH or phosphorus problem. Your county agent can mail the sample to the LSU Soil Analysis Lab for you.

2. Was the grass dark green at some time?

This usually indicates excessive use of nitrogen. Centipede naturally is light green but will become dark green with excessive nitrogen applications.

3. Did the grass have a lush, thick carpet with no symptoms of yellowing when it entered the dormant period?

If so, and the grass failed to come out in the spring, it is probably suffering from winter-kill associated with a thatch buildup or late application of nitrogen.

4. Can the turf be slightly lifted from the soil surface by pulling on the above-ground portion?

This is normally a sign of a poor root system, which may be caused by excess thatch, compacted soil, drought stress or nematodes.

5. Is it difficult to push a soil probe, screwdriver or shovel into the soil?

Usually this is a sign of a compacted soil.

6. Have the grass blades turned dull green or curled up during dry weather?

This is a sign of drought stress and may be caused by poor watering practices, excess thatch, compacted soil or nematodes.

7. Has the grass died out in the spring or summer in a semicircle or complete ring in an open area or around hardwood trees?

Usually there is an advancing margin of dying grass along the edge of the circle during the summer. This is caused by one of the fairy ring fungi. These symptoms in the spring or fall may also indicate the Brown Patch fungus.

8. Does the area feel “fluffy” when you walk over it because of numerous burrows that loosen the soil?

This can be caused by moles, crickets or insects.

Iron chlorosis can be corrected temporarily by foliar applications of chelated iron or ferrous sulfate. Apply 1 tablespoon of ferrous sulfate per 3 gallons of water to 1000 square feet, or apply iron chelate at the rate recommended on the package.

Adding a commercial spreader-sticker or 2 teaspoons of liquid detergent per gallon of water will increase the effectiveness of the application. Allow a few weeks for a complete response. Repeat applications as needed. When iron chlorosis develops, be sure to avoid phosphorus and lime applications. Have the soil tested.

3. Use suggested cultural practices as needed. Centipede is a low-growing grass that responds well to mowing at 1 1/2 inches. If the grass is mowed often enough so that no more than 1/3 of the leaf is removed, the clippings do not have to be collected. During stress periods, such as summer heat or the coming of winter, raise the mowing height slightly (1/4 to 1/2 inch).

The brown grass present after winter should be removed in the spring at or just before new growth begins to appear. This can be done by lowering the mowing height to 3/4 inch (scalping) and collecting the dead plant material. Be careful not to remove too many runners from which growth may occur.

If excessive thatch is a problem, it needs to be removed by vertical mowing or dethatching. Space vertical blades 2 to 3 inches apart. Thatch decomposition is also aided by aeration and topdressing. These operations also reduce soil compaction and increase air and water movement into the soil. Check for very low pH.

4. Use proper water management. Proper watering is very important to centipede vigor because the grass has a relatively small root system. This means the grass should be watered only just before wilt occurs. Apply enough water to soak the soil to a depth of 4 inches. This usually means leaving a small sprinkler in one spot for several hours.

WHAT TO DO

The decline factors may act independently or together to harm centipedegrass. The following practices should lessen the possibility of or correct centipede decline.

1. Follow proper soil preparation practices. This is the key to a successful lawn. It includes a soil sample analysis, cleaning and grading the site if necessary, and preparing the topsoil correctly for planting. This will permit better root development and more vigorous plant growth.

2. Follow recommended fertilization practices. Proper fertilization practices should be based on soil test results. Excessive fertilization is costly. It increases mowing requirements, thatch accumulation and the possibility of winter injury, and may cause temporary iron chlorosis. One pound of nitrogen per 1000 square feet each year is usually enough to maintain healthy, attractive centipede. Apply half in the spring and half in July.

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