



— Soil Fertility Note 9 — Problems with Centipedegrass

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N.C.D.A. & C.S. Agronomic Division

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Centipedegrass is one of the most popular, warm-season grasses grown in North Carolina. It is a low-maintenance grass that requires less fertilizer and mowing than other grasses. However, it is also subject to many problems, particularly in coastal areas.

Centipedegrass is not like other lawn grasses. It has unusual fertility requirements and is not well suited to alkaline coastal soils.

Most turf grasses require a soil pH near or slightly above 6.0. They tolerate high levels of nutrients and benefit from multiple applications of nitrogen during the growing season. Under conditions such as these, centipedegrass will not grow vigorously.

Centipedegrass thrives in acidic soil at a pH of about 5.5. Since most North Carolina soils are acidic, pH is usually not a problem. However, coastal soils often contain significant quantities of shell fragments. Shells, which are essentially calcium carbonate, have the same effect as limestone, causing the soils to be basic.

On basic soils, centipedegrass becomes iron deficient and turns light yellow or pale green. Even if the soil contains an adequate amount of iron, the plants are unable to use it. Since the iron deficiency is due to the high pH, adding iron to the soil will not solve the problem.

It is possible to lower the soil pH by adding sulfur. In theory, 0.75 lb of sulfur will lower the pH of 100 ft² of sandy soil by one full point, e.g. from 6.5 to 5.5. The problem with this approach when dealing with beach soils is that as the sulfur is lowering the pH, shell fragments continue to break down and release even more calcium carbonate. Trying to lower the pH under these circumstances becomes an exercise in futility.

Like the pH requirement, the fertility regime for centipedegrass is specialized. The normal color for this grass is apple green, and applying extra nitrogen is detrimental. In North Carolina, nitrogen should be applied in early June at the rate of 0.5 lb/1000 ft² per year. This is only half the rate recommended for other grasses.

High phosphorus levels in the soil can also cause centipedegrass to turn yellow. The optimal phosphorus index value (P-I) for this grass, as given on N.C.D.A. & C.S. soil test reports, is near 50. As North Carolina's farms are converted into residential-use areas, more and more homeowners are finding that prior crop fertilization has made the soil too rich in phosphorus for centipedegrass to grow. Phosphorus should never be applied to centipedegrass unless recommended by a soil test.

Because of the pH and fertility difficulties discussed here, the N.C.D.A. & C.S. and the N.C.S.U. Cooperative Extension Service advise homeowners not to plant centipedegrass near the beach. In fact, taking a soil test to check pH and nutrient levels is recommended any time you consider planting centipedegrass in a coastal area. Under these circumstances, it is best to consider planting other warm-season grasses, such as bermudagrass, zoysia or St. Augustine.

Periodic soil testing is the best way to manage the nutrient status of all turf grasses. Taking a sample every two to three years is usually sufficient. Soil sampling supplies and turf management information are available from the N.C.D.A. & C.S. Agronomic Division [919-733-2655], local Cooperative Extension offices and other agricultural advisors.

J. Kent Messick

Questions or comments should be directed to the Soil Testing Section of the N.C.D.A. & C.S. Agronomic Division. Information on field services, nematode assay and plant/waste/solution/media analyses is also available from the division.

Steve Troxler, Commissioner of Agriculture