



## — Soil Fertility Note 5 — Warm-Season Grasses

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NCDA&CS Agronomic Division

Web site: [www.ncagr.gov/agronomi](http://www.ncagr.gov/agronomi)

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Warm-season grasses are green in the summer and become brown and dormant in the winter. This group includes common and hybrid bermuda, centipedegrass, zoysia and St. Augustine. Warm-season grasses are adapted to the sandy soils of the North Carolina coastal plain and most of the piedmont. Warm-season grasses tolerate the high temperatures and summer droughts in North Carolina better than cool-season grasses.

Before trying to establish or renovate any lawn, have a soil sample analyzed for fertility and soil pH levels. The NCDA&CS Agronomic Division provides this service to any resident of North Carolina. On the soil information sheet, specify crop code 022 if you intend to establish or maintain centipedegrass and crop code 026 for all other warm-season grasses.

When establishing a new lawn, incorporate any recommended lime or fertilizer into the upper six inches of soil. It is critical that lime and fertilizer be thoroughly mixed into the root zone when trying to establish seedlings. If the soil is a heavy clay, one to

three inches of compost can be mixed into the soil at this time to increase the organic matter content and reduce compaction potential.

Some warm-season grasses can be planted by seed while others must be established vegetatively. Table 1 shows dates and rates for establishment.

Planting by seed is the fastest and easiest method of establishing grass. Spread the seed uniformly over the soil surface and cover lightly by hand raking or dragging. Mulch the seeded area with straw at a rate of one bale of straw per 1000 ft<sup>2</sup>.

Space planting is the planting of separate sprigs at regular intervals. The closer the planting, the more sprigs are needed and the faster the coverage. Sprigs should be set two inches deep with a portion of the sprig extending above the soil surface.

Broadcasting involves spreading a larger quantity of sprigs over the soil surface and then pressing the sprigs into the upper one inch of soil.

**Table 1. Dates and rates to plant warm-season grasses**

Grass	Planting Date	Planting Rate per 1000 ft <sup>2</sup>		
		Seed (lb)	Spacing (ft)	Broadcast (bu)
bermuda, common	April–July	1.0–2.0		
bermuda, hybrid	April–July		0.75	3.0–10.0
centipede	March–July	0.25–0.50	1.0–2.0	
St. Augustine	April–July		1.0	1.0
zoysia	March–July	1.0–2.0	1.0–2.0	3.0–10.0

Another method of vegetative planting involves the planting of individual sections of sod into an existing lawn. This method is often used when switching from one type of grass to another over a period of time without eliminating the existing grass initially.

Soil samples should be taken every two to three years to determine if lime and fertilizer are needed. The target soil pH is 5.5 for centipedegrass and 6.0 for all other warm-season grasses. Table 2 contains a recommended nitrogen fertilization schedule.

For faster cover, apply nitrogen at a rate of 0.5–1.0 lb/1000 ft<sup>2</sup> every three to four weeks on vegetatively planted grass during the growing season.

Warm-season grasses can develop a thatch layer. When the thatch layer is 0.5 inch thick, the lawn should be dethatched or raked. If the lawn becomes compacted, the soil can be aerated in the spring with a device that cuts and removes soil cores.

Begin mowing the grass as soon as it is tall enough to be cut. A reel mower is preferred for cutting zoysia, hybrid bermuda and centipede. The suggested cutting height is one inch. It is not necessary to collect the clippings unless the amount is excessive and may smother the grass.

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**Table 2. Suggested nitrogen rates for warm-season grasses\***

Grass	Monthly Application Rates					
	Apr	May	Jun	Jul	Aug	Sep
bermuda, common		1.0	1.0	1.0	1.0	0.5
bermude, hybrid	0.5	1.5	1.5	1.5	1.0	0.5
centipedegrass			0.5			
St. Augustine		0.5	0.5	1.0	0.5	
zoysia	0.5				0.5	

\*All rates are pounds of actual nitrogen per 1000 ft<sup>2</sup>. No nitrogen should be applied in January, February, March, October, November or December.

**Questions or comments should be directed to the Soil Testing Section of the NCDA&CS Agronomic Division. Information on soil testing, nematode assay, and plant/waste/solution analyses is also available from the Division.**