

**North Carolina  
Department of Agriculture  
and Consumer Services**

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**NCDA&CS Agronomic Division**

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**Additional information  
can be obtained from  
an NCDA&CS regional agronomist  
or the local Cooperative Extension office.**

**NOTE 14: Fertilization of  
Golf and Other  
Fine Turf**



North Carolina is a no man's land as far as turf management is concerned. We are too far south for the cool-season grasses and too far north for the warm-season grasses. However, we can capitalize on the situation and use the best grasses of both the north and the south.

The grass you select will depend on the intended use and the degree of management you are willing to supply. In this climatic region, a high degree of skill is necessary to grow any fine turfgrass. Maintaining fertility of the soil is of utmost importance. Our soil testing service is available for this purpose.

The soil test report suggests the amount of lime and fertilizer needed as a corrective treatment. Amounts are given in terms of pounds per 1000 ft<sup>2</sup> for greens and tees and in tons or pounds per acre for fairways and other extensive turf areas.

**Establishment**

Broadcast the lime, P<sub>2</sub>O<sub>5</sub> and K<sub>2</sub>O along with 60–80 lb of N per acre (1.5–2 lb N per 1000 ft<sup>2</sup>) before seedbed preparation. Proceed with the seeding operation, and follow up with a topdressing of nitrogen as outlined in **Table 1**.

## Maintenance

You can apply lime as a topdressing at any time of year. However, never apply more than 100 lb per 1000 ft<sup>2</sup> or 2 tons per acre unless the lime can be worked into the soil. High rates without incorporation provide little or no immediate benefit.

The recommended rates of P<sub>2</sub>O<sub>5</sub> and K<sub>2</sub>O, as well as any follow-up maintenance, are intended as corrective treatment. These nutrients can be applied with a topdressing of nitrogen as indicated in **Table 1**. All of the recommended P<sub>2</sub>O<sub>5</sub> can be broadcast at one time. However, if more than 5 lb K<sub>2</sub>O per 1000 ft<sup>2</sup> or 200 lb per acre are topdressed, the application should be split and applied at two different times.

During the year following the recommended corrective treatment, topdress as follows:

- *Bent and bermuda greens*

3 lb P<sub>2</sub>O<sub>5</sub> and 4 lb K<sub>2</sub>O per 1000 ft<sup>2</sup>, applying half of each at the first topdressing with nitrogen in the fall.

- *Tees*

2 lb P<sub>2</sub>O<sub>5</sub> and 3 lb K<sub>2</sub>O per 1000 ft<sup>2</sup> split into two applications: half in the spring and the other half in the fall on the same time schedule.

- *Fairways or other turf areas*

160–200 lb N, 60–80 lb P<sub>2</sub>O<sub>5</sub> and 80–100 lb K<sub>2</sub>O per acre split so half is applied in the spring and half in the fall.

For optimal turf fertility management, have the soil tested every two or three years.

**Table 1. Maintenance schedule for golf greens**

Turf Species	Source of N	Time to Apply	N Rate (lb/1000 ft <sup>2</sup> )*
bentgrass	slow-release N** or turf mixture	<u>monthly from Mar to Dec</u>	
		March–June	0.7–1.3
		June–August	0.3–0.4
bentgrass	soluble N sources	August–December	0.7–1.3
		<u>monthly from Jan to Dec</u>	
		January–March	0.5–1.0
bentgrass	soluble N sources	March–June	0.5–1.2
		June	0.5–0.7
		August	0.3–0.5
		September	0.5–1.0
		October–December	0.7–1.2
		bermudagrass	slow-release N** or turf mixture
bermudagrass	slow-release N** or turf mixture	April 15–July	0.7–2.0
		July & August	1.0–2.0
		to September 15	0.5–0.7
bermudagrass	soluble N sources	<u>every 3–4 weeks Apr to Sept</u>	
		April 15–July	0.2–1.0
		July–August	0.5–1.0
bermudagrass	soluble N sources	August–September 15	0.2–0.5

\* (rate × 100) ÷ percent nitrogen = pounds of material to use

Example: If 1 lb of nitrogen is required from a 12-4-8 fertilizer, then (1 lb N × 100) ÷ 12 = 100 ÷ 12 = 8.3 lb of 12-4-8

\*\* When slowly available forms of nitrogen are used in colder seasons, it may be necessary to apply ¼ to ½ lb of quickly available nitrogen to improve color. Do not fertilize during hot and humid weather, for instance in July and/or August.