Understanding the Soil Report

Lime
Application of lime at the recommended rate will raise soil pH to the optimum range. Do not apply too much lime. When soil pH becomes too high, lowering it is very difficult. Often, the best solution then is to choose plants that can tolerate a high pH.

Choosing dolomitic lime can be advantageous because it contains the nutrients calcium and magnesium. Pelleted lime is easier to spread uniformly than powdered lime.

Lime can be applied at any time of year, but because it reacts slowly, it is best to apply it several months before a new planting. Mixing it into the soil will speed the reaction time. Lime applied to the soil surface takes much longer to correct soil pH.

A surface application should not exceed 60 lb per 1,000 sq ft. If a soil report recommends more than this, apply 60 lb per 1,000 sq ft initially and the rest in similar increments every 6-9 months until the full rate is applied.

Fertilizer
Soil tests do not measure nitrogen (N) since it is very unstable in soils; the N recommendations provided on the soil report are based on plant needs. If soil-test P-I and K-I values are adequate (>50), only nitrogen is recommended- Group D below. A mixed (N-P-K) fertilizer is recommended if P-I and K-I values are less than optimum- Groups A - C below. Although a specific fertilizer grade may be recommended (e.g., 5-10-10), other equivalent options are likely to be available (e.g., any fertilizer in Group A from Table 1).

Tips on Fertilizer Application
· To determine how much fertilizer to buy, estimate (in feet) the length (L) and width (W) of the area to be treated: L × W = sq ft.
  Square off curves to make estimates easier. If the recommendation is 20 lb per 1,000 sq ft and your area is 5,000 sq ft, then you need 100 lb (20 × 5) for your 5,000-sq-ft area.
· Calibrate your spreader according to manufacturer settings. Apply half the total rate in one direction; apply the rest at a 90° angle. This cross-hair pattern provides a more uniform application.
· After application, sweep up any fertilizer on hard surfaces and apply to fertilized areas so rainfall does not carry fertilizer to a storm drain.

Table 1. Groups of equivalent fertilizers that supply 1 lb of N per 1,000 sq ft *

<table>
<thead>
<tr>
<th>Group A: low P-I + low K-I</th>
<th>Group B: high P-I + low K-I</th>
<th>Group C: low P-I + high K-I</th>
<th>Group D: N only</th>
</tr>
</thead>
<tbody>
<tr>
<td>5-10-10 @ 20 lb</td>
<td>5-10-5 @ 20 lb</td>
<td>8-0-24 @ 12 lb</td>
<td>15-0-0 @ 7 lb</td>
</tr>
<tr>
<td>3-9-9 @ 30 lb</td>
<td>18-46-0 @ 6 lb</td>
<td>15-0-14 @ 7 lb</td>
<td>21-0-0 @ 5 lb</td>
</tr>
<tr>
<td>10-10-10 @ 10 lb</td>
<td>18-24-10 @ 6 lb</td>
<td>6-6-18 @ 18 lb</td>
<td>16-0-0 @ 6 lb</td>
</tr>
<tr>
<td>11-15-11 @ 10 lb</td>
<td>9-13-7 @ 11 lb</td>
<td>5-5-15 @ 20 lb</td>
<td>28-0-4 @ 4 lb</td>
</tr>
<tr>
<td>8-10-8 @ 12 lb</td>
<td>9-17-8 @ 11 lb</td>
<td>10-0-14 @ 10 lb</td>
<td>12-6-6 @ 8 lb</td>
</tr>
</tbody>
</table>

* Since these rates supply 1 lb N per 1,000 sq ft, use half the rate if centipede is the grass type.

Report Abbreviations
CEC: cation exchange capacity
Cu-I: copper index
HM%: percent humic matter
Mn-I: manganese index
pH: soil pH
S-I: sulfur index
SS-I: soluble salt index
W/V: weight per volume
Zn-I: zinc index

Time Fertilizer Application to Coincide with Plant Growth Cycle:
Bermudagrass: May, July, Sept
Centipedegrass: May
St. Augustine grass: May, August
Tall fescue: Sept, Nov, Feb
Zoysia: May, July
Flowers/shrubs: prior to planting or during the growing season
Vegetables: prior to planting

Helpful Links
A Homeowner's Guide to Fertilizer
Note 4: Fertilization of Lawns, Gardens & Ornamentals
Caring for Your Lawn & Environment
Carolina Lawns
Soil Acidity and Liming: Basic Information for Farmers & Gardeners