

SOIL TEST INFORMATION SHEET NO. C-120

Prepared by Extension Agronomist John Barnett

Cotton

1. The optimum soil pH for cotton is 5.8-6.5. Agricultural limestone should be applied when the soil pH value is below 5.5. Limestone effectiveness is determined by the size of the particles and the Calcium Carbonate Equivalent (C.C.E.). The lime recommendation is based on a C.C.E. of 100. If the magnesium content of the soil is medium or lower, dolomitic limestone should be used. Do not overlime. Overliming can cause micronutrient deficiencies.
2. Research has shown that in most situations all nitrogen can be applied preplant. Sidedress, split, and supplemental foliar applications are usually as effective as preplant applications. On very sandy soils where leaching is a potential problem and on heavy clay soils with poor surface drainage, split application may improve nitrogen efficiency in very wet years. Where split applications are used, one-half to two thirds of the nitrogen should be applied preplant or as soon after planting as possible and the remaining nitrogen should be applied from first square to early bloom. If nitrogen is foliarly applied, use a urea based compound and avoid excessive rates as leaf burn may occur.
3. The lower nitrogen rate should be used on fields with a history of excessive stalk growth. The higher rate should be used on fields or areas within fields where much of the topsoil has been removed by erosion or land leveling. Adequate N fertilization is necessary for high yields of cotton. Excessive rates and late season applications usually delay maturity, increase boll rot and make cotton more attractive to insects. Research has also shown that excessive nitrogen rates may lead to contamination of groundwater and surface water.
4. Nitrogen rates should be reduced 10-20 pounds per acre following soybeans and by 30-50 pounds per acre following a good winter legume cover crop.
5. On recently limed soils with low organic matter content, or where soil test boron levels are less than high, boron may be needed. Where needed, boron should be applied to the soil at a rate of 0.5-1.0 pounds per acre. If applied to the foliage, make 4 applications of 0.1 pounds boron per acre, or 2 applications of 0.2 pounds of boron per acre.
6. Solid or liquid sources of fertilizers are essentially equal in their effectiveness to produce cotton when applied in the same way.
7. Contact your county agent for additional information and help in your fertilization program. The agent also receives a copy of this report for the parish office files.