

Pine Plantation - Establishment (Code #069)

Successful establishment of a pine plantation depends on many factors; the soil test phosphorus (P) level is one of those. Soil testing begins with proper sampling of soil from the area to be planted. Soil sampling procedures are described in the publication “Proper Soil Sampling and Analysis for Nutrient Needs Determination in Loblolly, Longleaf, and Slash Pine Stands”, which is located at <http://www.forestproductivity.net/fertilization/> or <http://aesl.ces.uga.edu/publications/soilcirc/>.

Fact Sheet

Phosphorus fertilization is likely to be beneficial at establishment on some Coastal Plain soils that are P deficient. These soils include (1) very poorly drained to somewhat poorly drained soils with clay subsoil within 20 inches of the surface are the most responsive, (2) to a lesser extent very poorly drained to somewhat poorly drained soils with clay subsoil from 20 inches to 80 inches from the surface, and (3) Citronelle terraces, fine textured soil phases only. In general, if these soils have a Mehlich I (UGA Ag Service Lab procedure) soil test P level of less than 10 pounds P per acre, planted pines may respond to the added P. More specifically, if the soil test P is less than 6 pounds P per acre, the probability of pine response to P fertilizer is moderate to high; if soil test P is 6 to 10 pounds P per acre, the probability of yield response to P fertilizer is moderate; and if the soil test P is 10 pounds per acre or greater, pine response to P fertilization is unlikely. For detailed soil series information, and P fertilizer rate recommendations, see the publication “Phosphorus Fertilization at Establishment in Loblolly and Slash Pine Stands on Atlantic and Gulf Coastal Plain Sites”, which is located at <http://www.forestproductivity.net/fertilization/> or <http://aesl.ces.uga.edu/publications/soilcirc/>.

Pine Plantation - Maintenance (Code #070)

Successful fertilization of a pine plantation depends on many factors; the soil test level is one of those. Soil testing begins with proper sampling of soil from the area to be planted. Soil sampling procedures are described in the publication "Proper Soil Sampling and Analysis for Nutrient Needs Determination in Loblolly, Longleaf, and Slash Pine Stands", which is located at <http://www.forestproductivity.net/fertilization/> or <http://aesl.ces.uga.edu/publications/soilcirc/>.

Fact Sheet

Profitable fertilization of pine stands depends on many factors that are outlined in the publication "A checklist for fertilization of loblolly, longleaf and slash pine stands". This publication is located at <http://www.forestproductivity.net/fertilization/> or <http://aesl.ces.uga.edu/publications/soilcirc/>.

In making decisions about fertilization, numerous stand factors described in this publication should be considered. In addition, soil series and land use history should be combined with the results from the three diagnostic tools listed: 1. Soil testing, 2. Foliage testing, and 3. Leaf Area Index. Finally, the economics in making fertilizer rate decisions should be considered as described in the publication "Mid-rotation rate of return (ROR) estimates with a single nitrogen + phosphorus or nitrogen + phosphorus + potassium fertilizer application in loblolly, longleaf, and slash pine stands". This publication is also available at the two websites given above. A calculator at <http://aesl.ces.uga.edu/soil/pine> can help you determine the rate of return if you provide rates of N, P, and K fertilizer, their cost, the expected extra growth from fertilization, and the value of the extra wood produced.