INFLUENCE OF FERTILIZER AND TIME OF ITS APPLICATION ON GROWTH, YIELD, AND QUALITY OF PECANS

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Application of fertilizer is an essential part of a well-planned program of orchard management for the production of pecans on the soils of the Southeast. Fertilizers, for the most part, are applied in early spring just before or at the time growth begins. Blackmon and Ruprecht (1) obtained the highest yields on Bladen fine sandy loam soil when the fertilizers were applied in three or four different applications during the year. Later, Blackmon and Barnette (2) showed that summer applications of nitrogen fertilizers increases the yield of pecans over that produced with cover crops.

Skinner, et al. (4) found that the time of applying fertilizers in pecan orchards should vary according to the source of materials, climatic conditions, and general orchard practice. Their experimental evidence showed that plant food materials are most quickly assimilated during the period of rapid growth in early spring, but that increased yields resulted when additional light applications were made in May or June on deep sandy soils and in orchards where weeds or other plants were competing with the trees for nutrients. It is the purpose of this report to present results of an experiment designed to determine the effects of fertilizers applied at different times during the growing season on tree growth, yield, and quality of pecans.

MATERIALS AND METHODS

The experiment is located on Greenville sandy loam soil in Lee County, Georgia. The soil has a brownish-red surface and a red subsoil which is well-drained, but the subsoil contains considerable colloidal material and clay, thus making it quite compact in structure. These characteristics enable it to retain considerable moisture, a portion of which is not readily taken up by plants.

Trees of the Moore variety, planted 20 to the acre and 14 years before the beginning of this experiment, were selected for uniformity and divided into blocks of 10 trees each. These trees received an average of 20 pounds per tree of a 4.6-8.4-4 fertilizer annually during the five years preceding the experiment. The fertilizer constituents are given in the order of nitrogen, phosphoric acid, and potash.

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Figures in parenthesis refer to "Literature Cited", p. 187.

W. M. Van Cise, Manager, Albany Peach and Pecan Company, contributed the use of the orchard and the labor for these experiments. His cooperation is appreciated. This experiment was inaugurated by E. D. Fowler, formerly of the Bureau of Plant Industry, now with the Soil Conservation Service, U. S. Dept. of Agriculture.

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