Effect of Rotations, Fertilizers, Lime and Green Manure Crops on Crop Yields and on Soil Fertility

L. G. THOMPSON, JR., and W. K. ROBERTSON [1]

INTRODUCTION

Two crops—corn and peanuts—occupy a large percentage of the cultivated land in northwest Florida. The acute shortage of edible oil during the war and reconversion period resulted in high prices for peanuts, and consequently a substantial increase in acreage for harvest. To obtain this increase in acreage, many farmers planted peanuts on the same land year after year. This management practice resulted in serious depletion of organic matter and fertility of the soil. On such soils both peanut and corn yields have shown progressive declines.

It is extremely important to determine the best system of soil management for rebuilding this depleted soil and maintaining fertility of all the crop land.

This investigation was conducted to determine the effect of various rotations, fertilizers, lime and green manure crops on the yield of peanuts, corn and oats, and on the fertility of the soil.

EXPERIMENTAL PROCEDURE

A 40-acre field of virgin wiregrass soil, which consisted mostly of Norfolk loamy fine sand, was surveyed into field plots and blocks during the winter of 1946-1947. Rotation, fertilizer, lime and "hogged-off" peanut experiments, each in randomized blocks, replicated four times, were initiated in the spring of 1947. A soil sample was taken from each individual plot before any fertilizer or lime was applied. As the experiment progressed soil samples were taken from time to time to study the changes brought about in the soil.

Red Rustproof No. 14 oats were planted the first three years and Southland oats the last year of the test. Bitter blue lupine and *Crotalaria spectabilis* Roth were planted for green manure crops. Florida W-1 hybrid corn was planted the first two years and Dixie 18 hybrid corn the last three years of the experiment.

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[1] Soils Chemist, North Florida Station, and Assistant Chemist, Main Station, respectively.