

OPTIMUM FARM PLANS TO MEET CHANGING CONDITIONS  
ON NORTH AND WEST FLORIDA CROP FARMS

By

Romulo Soliz-Valarezo

A THESIS PRESENTED TO THE GRADUATE COUNCIL OF  
THE UNIVERSITY OF FLORIDA  
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE  
DEGREE OF MASTER OF SCIENCE

UNIVERSITY OF FLORIDA

1976

Abstract of Thesis Presented to the Graduate Council  
of the University of Florida in Partial Fulfillment of the Requirements  
for the Degree of Master of Science

OPTIMUM FARM PLANS TO MEET CHANGING CONDITIONS  
IN NORTH AND WEST FLORIDA CROP FARMS

by

Rómulo Soliz-Valarezo

March, 1976

Chairman: Dr. John E. Reynolds  
Co-Chairman: Dr. John Holt  
Major Department: Food and Resource Economics

The major objective of this study was to develop optimum (profit maximizing) farm organizations as a general model to evaluate income-raising adjustment opportunities in crop production for the area comprised of Planning Districts I, II, and III in North and West Florida. The analysis can be classified under two headings: 1) Determination of effects on optimum combination of enterprises and income levels of changes in alternative levels of cropland and operating capital, and 2) Impact on peanut enterprises/ if the governmental price support and acreage allotment programs were abolished. This section included the development of acreage response functions to alternative levels of peanut prices.

A "synthetic" firm approach was adopted to analyze typical one-man crop farm operations. Linear programming techniques and parametric procedures were used to test the optimum solutions. Results depended on the underlying assumptions, the input-output data and the price information used in this study.

Eighteen production activities were considered as enterprises. Under the model's assumptions, both single and double-cropped grain sorghum did not enter any of the optimum solutions. For flue-cured tobacco, hand

harvest methods should be used for acreages up to 74 acres, at which point it becomes feasible to use mechanical harvest. Optimum solutions were obtained for several alternative resource situations and product combinations. Overall, government-supported crops appeared to be the best capital investment plan. Tobacco and peanuts combined well, and the exclusion of peanuts did not increase returns. As more cropland and operating capital was made available, extensive-type crops entered the optimum plans in larger acreages. In farms specializing in extensive crops, corn and soybeans appeared to have the best adjustment opportunities. Corn substituted for soybeans as operating capital increased. Higher requirements of operator labor at harvest time made custom harvest a profitable alternative.

As peanut prices decreased and peanut acreage allotment was eliminated, other crops were substituted for peanuts and the resulting income disadvantages were small under current relationships with competing crops.



---

Chairman



---

Co-Chairman