

## ABSTRACT

### **An Evaluation of Yam Production Systems in Jamaica: A Comparative Analysis**

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Yam production plays a significant role in the Jamaican economy, both for its local demand and its increasing value as an export crop. There are however, many factors which limit the increase in production and the productivity of yams in Jamaica. The factors limiting production are said to be linked to the traditional system. Policy makers are of the opinion that the minisett system is a more efficient system of production. As such, this study was concerned with the evaluation of the traditional and minisett systems of yam production in terms of the relative efficiencies of resource use.

Data were obtained from a cross-sectional survey of traditional and minisett yam farmers in the parishes of Hanover, Trelawny, Manchester, Clarendon, St. Ann, St. Catherine, and St. Andrew.

With the aid of multiple regression techniques, production functions of the Cobb-Douglas type were estimated. These functions subsequently provided the basis for the efficiency analyses to see whether the farmers were utilizing their resources in an efficient manner. Also the overall technical efficiencies for both systems were examined and the average products were compared to see if the mean values were significantly different. As a part of the economic analysis, the gross margins for both systems were calculated and compared.

The result of the analyses showed that traditional farmers were

overutilizing most of their resources in their production and thus were operating at an inefficient level. Excessive use of planting material, transportation, land and labour was observed. As far as the minisett is concerned, the farmers were operating inefficiently through excessive use of planting material, transportation, plastic mulch, land and labour.

In comparing the average products of transportation, planting material, land and labour, it was found that only the means for planting material for yellow yam production were significantly different. All other values were not significant. The gross margins analysis showed that the traditional system had positive values, while the minisett system had negative gross margins.

This study could not conclusively state one system of production as being superior than the other, given the analyses carried out. However, the results showed the reaction of yam farmers to the minisett system and the extent of dominance of the traditional system in Jamaica. Recommendations are put forward for continuous research activities with the aim of improving yam production based on principles of the minisett system, while at the same time improving traditional practices.