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Quality Management Practices in Cocoa Production in South - Western Nigeria

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Abstract

The main objective of this study was to investigate quality management practices in the major cocoa production areas of Nigeria. Socio-economic surveys covered resource quality, agronomic practices, and constraints to agricultural production, whereas soil sampling and analyses were carried out to assess contribution of soil to yield. Farm budget analysis was used to determine the profitability of the two major management options of sampled farmers.

Linear multiple regression was used to relate biophysical and agronomic data to cocoa yield. Owing to high level of multi-collinearity, independent variables were reduced to six which are organic C, age of farm, plant density, proportion of dormant plants replaced, crop variety and ECEC. Among the variables in the model, two (organic C and age of farm) were negatively related to cocoa yield, whereas other variables were positively related to cocoa yield. However, soil variables were not significant to the model ($p > 0.05$), whereas three management variables (plant density, proportion of dormant plants replaced and crop variety) were significant ($p < 0.1$). All the variables explain 97% of the variability of yield and the model can be used to predict yield at 99% confidence level. Results indicated variability in yield across the three main locations studied. The highest yields were obtained in areas where farmers have access to training in management practices.

Soils of the three locations were not significantly different from one another in terms of chemical properties. This probably reflects similarity in the parent materials from which the soils have developed.

Farm budget analysis revealed that minimal management involving fertiliser and pesticide use was less profitable than extensive management.

For sustainable cocoa production in the study areas, a high premium should be placed on the quality of cocoa product for export.

Keywords: Cocoa production, farm budget, linear multiple regression, management, quality