

Determinants of technical efficiency differentials among users and non-users of fertilizer: A case of food crop farmers in south-western Nigeria

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Despite the increasing role of fertilizer in generating sufficient food for the growing population, dwindling productivity in food crop production remains a concern. Farm surveys in the four agricultural zones of Ogun State, Nigeria were carried out to assess the level of technical efficiency differential of food crop farmers in the use of inorganic fertilizer. The stochastic frontier modelling showed that there is inefficiency in food crop production in the study area. Most of fertilizer users (69.7%) had technical efficiency above 80 per cent which was significantly different from non-users at $P < 0.01$. However, age of farmer, farming experience, ratio of non-farm income to total annual income and insecticide usage were found to contribute to farmers' inefficiency in the use of inorganic fertilizer. The Chow test showed that significant differences exist in the parameters of the production functions of fertilizer users and non-users' farms. Increased policy efforts should be placed not only to encourage the use of fertilizers but also to tackle associated inefficiency factors.

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