KENYATTA UNIVERSITY                        RESEARCH GRANTS

MAIN PROJECT TITLE: Training Programme In Integrated Soil Fertility Management

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SCHOOL: AGRICULTURE AND ENTERPRISE DEVELOPMENT

DEPARTMENT: AGRICULTURAL RESOURCE MANAGEMENT

PROJECT TITLE (MSc research project): Efficiency of Integrated Incorporation of Manure and Mineral Fertilizers on Maize Yield in Acidic Soils of Biera Corridor, Mozambique

DURATION: September 2010 to August 2012

RESEARCH TEAM (MSc Student 4)

Researcher: Arlindo Muambole (Mozambique)

Supervisor: Dr. Benjamin O. Danga

Kenyatta University

Supervisor: Prof. Reuben M. Muasya

Supervisor: Dr. Magalhães M. Amade

(Agricultural Research Institute of Mozambique (IIAM))

BACKGROUND

Currently, Mozambique lags behind all Southern and Eastern African countries in maize productivity leading to maize imports. Declining maize production has been attributed to degradation of soil physical-chemical properties, soil acidity with P sorption and soil nutrient depletion due to low chemical fertilizer use by most small-scale farmers who cannot afford the expensive fertilizer (MINAG. 2009). The empirical knowledge on the relationship between fertilizer use, yield response, and profitability is not considered as most important. For these reasons, it is difficult to understand whether the reasons for low fertilizer use are related primarily to market failures that prevent farmers from using fertilizer despite being profitable for them to do so, or whether input/output price conditions and low response rates make fertilizer use unprofitable. Apart from the erratic and unreliable rainfall, rudimentary cultivation techniques and use of low yield varieties contributing to the crop yield decline, soil nutrient depletion and lack of measures to increase soil organic matter content have been identified as main causes of the declining crop yields and consequent food insecurity (MINAG, 2007 and SETSAN, 2009). Though most farmers in Nhamatanda and Barue Districts own large numbers of cattle, the use of cattle manure as source of nutrients to increase crop productivity is less than 3% in the central region of Mozambique (DNSA, 2009). Using cattle manure as the only means to maintain soil fertility is possible, but in that case very large quantity of manure is needed. Moreover, the efficiency of chemical fertilizer applied alone is low in physically degraded soils.

OBJECTIVES

The purpose of this study therefore was to identify and recommend the optimum combination of cattle manure and mineral fertilizer to increase maize yield while improving soil chemical and physical properties in Nhamatanda and Barue Districts, central region of Mozambique.

More information needed, please contact the researcher at muambole@gmail.com.