

Abstract

Globally the demand for food is increasing due to the increase in population. In sub Saharan Africa degrading soils necessitates novel approaches to soil fertility management. The aim of this research was to investigate the effect of application of cattle manure and inorganic fertilizer in tomato production in Kitui County, Kenya. Cattle manure was applied at the rate of 10 ton/ha and mineral fertilizer applied at the recommended rates of 150 kg/ha DAP, 200 kg/ha CAN, and 200kg/ha NPK. The treatments were arranged in a completely randomized design. Tomato growth characteristics and yields were measured and the data subjected to ANOVA using the Genstat 15th Edition (VSN-International, 2012). Both the organic and inorganic soil amendments increased growth and yield of tomato, but this effect was more significant in plots which had the combination of both the organic and inorganic soil amendments. We recommend combination of cattle manure and mineral fertilizer to small holder tomato farmers in semi-arid lands of Kitui.