

ABSTRACT

Maize is one of Kenya's main staple food crop which plays a major role in the livelihoods of many households in terms of food security, income and employment generation. Over eighty percent of Kenya's population which is currently over forty million depends on availability of maize as the main food. There is a shortage of maize as consumption outstrips production, which is caused by low maize production, especially in semi arid or marginal regions. Feeding the growing population and meeting the increased domestic future demand will continue to be a challenge unless maize production per hectare is improved. This can be achieved through application of new farming technologies that could enhance maize production such as; planting the best performing and improved hybrid maize varieties which are in the market. Most of small scale farmers do not know nor plant these hybrid maize varieties which give optimal yield. This study, therefore seeks to determine the best performing maize variety out of the twenty five selected. The field trials were conducted in two locations namely Katumani and Kangundo in Machakos County, Kenya. The broad objective of the study was to determine the overall best maize variety across the two stated locations. The design used was a partially balanced lattice design carried out in two locations, each having two replications. Results revealed that there were significant mean differences among the maize varieties at 5% significant level in Katumani. No significant mean differences were noted in Kangundo. In Katumani, the best variety was T9 with mean yield of 1.158 t/ha while in Kangundo, T16 with mean yield of 1.747 t/ha. Varieties T16, T2, T5 and T14 were among the top ten in both locations. Farmers in Kangundo should be encouraged to plant varieties T16 and T2 while T9 and T22 in Katumani. Most of the varieties do not differ very much in yield capacity and more research should be conducted, based on the diversity of the farmer's requirements.

Keywords: Maize variety, yields, partially balanced lattice.