

**Evaluation of Maize-Legume Intercropping Systems on the Performance of  
Maize (*Zea mays*)**

by

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**A Thesis Submitted to the Department of Agriculture and Natural Resources,  
Faculty of Science and Technology In Partial Fulfilment of the Requirements  
for the Degree of Master of Science in Agriculture and Rural Development**

of the



**KENYA METHODIST UNIVERSITY**

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## ABSTRACT

A cropping system that increases productivity through efficient utilization of resources, ensuring environmental conservation, is the main strategy to fulfill the ever increasing demand for food. The objectives of this study were to establish maize yields under different maize-legume intercropping systems. The 'cropping system' constituted the main effect and the 'legume used' constituted the sub effect. RCBD experiment with 4 replicates was conducted. Grain yield data for the three crops, was subjected to analysis of variance. The highest mean maize grain yield was obtained under same hill, intra and inter-row maize-legume intercrop cropping system. The maize yields increased between 11% to 45% under intercropping. The partial maize LER ranged between 1.06 to 1.36 perhaps due to the maize-legume interaction effect. High grain yields for both beans and cowpeas, were obtained under pure legume stands planted at high population densities. The partial legume LERs ranged between 0.77-1.36 and 0.76-0.95 for both beans and cowpeas respectively. The total land equivalent ratio (LERT) for the maize-legume intercrops ranged between 1.83 and 2.26 for the different intercropping systems. Maize-legume Intercrops have better returns to farmers than sole crops.