Abstract

Two-phased field experiments were carried out to investigate the effects of legume intercrop management practices and nitrogen fertilizer application on growth and yield of finger millet (Eleusine coracana) at Kabete and Njoro, Kenya. In phase one, an indigenous edible legume (Crotalaria brevidens) and a fodder legume (Trifolium quartinianum) were intercropped with finger millet. Each plot was supplied with three nitrogen fertilizer rates (0, 20, and 40 Kg N/ha) in the form of Urea (46% N) in a completely randomized block design with three replicates. Two methods of harvesting (uproot & cut) were used at the end of phase one. In phase two, a pure stand of finger millet was sown to investigate the effects of residual nitrogen and the harvesting method used. Nitrogen application had a positive significant effect ($P<0.05$) on the fresh and dry leaf weights of Crotalaria brevidens at both Kabete and Njoro sites. There were also significant ($P<0.05$) differences caused by applied nitrogen fertilizer rates on leaf fresh and dry weights of Trifolium quartinianum at both sites. This study showed that intercropping favored the growth of Crotalaria brevidens and had no effect on the performance of Trifolium quartinianum, but it depressed the growth and yield of finger millet. Therefore when intercropped with finger millet, Trifolium quartinianum could be a better legume than Crotalaria brevidens in a legume-based intervention in a predominantly cereal-farming system. It is recommended that for effective assessment, intercropping with Crotalaria brevidens should involve taller cereals such as proso millet or sorghum.