

## Abstract

This study was carried out in 2006 to determine the effect of different intercropping systems on grain yield, land use efficiency and economic returns in soybean (*Glycine max*) and grain amaranth (*Amaranthus* spp.) intercrops for two seasons in Teso district of western Kenya. The experiment was carried out on-farm at two sites (A and B) using randomized complete block design with three replicates. Results showed that intercropping using single and double rows significantly increased ( $P < 0.05$ ) amaranth grain yield by 32–33% in site A and 47–46% in site B compared to monocropping. High average land use ratios of LER = 1.5 and 1.6 in single-row intercrops and LER = 1.8 and 1.9 in double-row intercrops were recorded in sites A and B, respectively, in both seasons. Intercropping using double-row intercrops also gave maximum benefit–cost ratio (BCR) values of 4.6 in site A and 4.2 in site B. Intercropping amaranth and soybean can therefore be an ideal farming system for increased food security, enhanced nutrition and income generation through efficient use of land and reduced cost of inputs towards improving livelihoods in this part of Kenya.