ABSTRACT

Stability in yields of agronomically acceptable cultivars is generally regarded as the ultimate goal in cowpea improvement. Nine advanced cowpea lines and 3 local checks were evaluated for grain yield in eastern Kenya with the aim of identifying stable genotypes and integrating farmer preferences. The study was conducted in 3 locations over 2 years under a randomized complete block design with 3 replications. Stability was estimated using additive main effects and multiplicative interaction (AMMI) and genotype by environment (GGE) models. There was variation among genotypes, locations and their interactions for grain yield. Genotype G5, G9 and G2 were found to be stable and high yielding. Environments Kit16 and Kit15 were considered as the most suitable for selecting superior genotypes for adaptability and stability. Farmers' criteria for selecting genotypes included early maturing, pod length, disease tolerant and high yielding varieties. Cowpea performance for grain yield was greatly influenced by inherent genotypic factors, environment and their interaction effects