

Abstract

Many papaya cultivars found in Kenya have not been characterized and documented. Therefore, there is difficulty in differentiating the *Carica papaya* cultivars in the different regions of Kenya. Characterization of papaya germplasm is normally accomplished by use of morphological descriptors, hence as a first step, a germplasm collection from within Kenya was gathered and its morphological diversity assessed. The papaya germplasm was collected from Coast, Nyanza, Western, Rift Valley, Eastern and Central provinces in Kenya and characterized on the field using IBPGR (International Board for Plant Genetic Resources) morphological descriptors such as fruits, flowers, stems and leaves. The morphological characters were recorded and morphological data from 60 accessions submitted to principal component and Neighbor-Joining cluster analysis. Accessions from Coastal, Western, Rift Valley and Nyanza provinces showed the widest morphological diversity with those from Eastern and Central provinces showing the least diversity. Fruit shape, fruit diameter, tree habit, leaf size and flower colour showed the greatest variation in principal component analysis. The high diversity observed within the genotypes points to ample possibilities of obtaining desirable trait combinations in specific cultivars.