

Article: Analysis of genetic diversity in banana cultivars (*Musa* cvs.) from the South of Oman using AFLP markers and classification by phylogenetic, hierarchical clustering and principal component analyses

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Full-text · Article · May 2010 · Journal of Zhejiang University SCIENCE B

ABSTRACT: Banana is an important crop grown in Oman and there is a dearth of information on its genetic diversity to assist in crop breeding and improvement programs. This study employed amplified fragment length polymorphism (AFLP) to investigate the genetic variation in local banana cultivars from the southern region of Oman. Using 12 primer combinations, a total of 1094 bands were scored, of which 1012 were polymorphic. Eighty-two unique markers were identified, which revealed the distinct separation of the seven cultivars. The results obtained show that AFLP can be used to differentiate the banana cultivars. Further classification by phylogenetic, hierarchical clustering and principal component analyses showed significant differences between the clusters found with molecular markers and those clusters created by previous studies using morphological analysis. Based on the analytical results, a consensus dendrogram of the banana cultivars is presented.