ASSET Series A (2007) 7 (1): 204-214

ASSET
An International Journal

GENETIC VARIABILITY AND CORRELATION STUDIES IN 'EGUSI' MELON (*CITRULLUS LANATUS* (THUNB.) MATSUM & NAKAI)

O. B. KEHINDE* AND E. O. IDEHEN

Department of Plant Breeding and Seed Technology,
University of Agriculture, P.M.B. 2240, Abeokuta, Nigeria.

ABSTRACT

Genetic variability and correlation analysis were carried out on 20 accessions of melon during two growing seasons. The genotypic correlation coefficients of some characters with seed yield were partitioned into direct and indirect effects. Heritability in the broad sense ranged from 17% for fruit circumference to 90% for days to germination and flowering in the early season, while in the late season this parameter ranged from 7% for seed weight per fruit to 88% for days to germination. High phenotypic and genotypic coefficients of variation were recorded for seed yield while days to maturity had the least in both seasons. Fruit circumference and fruit weight had significant genotypic and phenotypic correlation with seed yield in the early season while number of branches per plant, vine length per plant, number of fruits per plant and fruit circumference per plant showed significant genotypic and phenotypic correlation with seed yield in the late season. Environmental correlation coefficients were significant between seed yield and vine length per plant, number of fruits per plant and fruit size per plant. Path coefficient analysis revealed that vine length per plant and fruit circumference per plant had the largest positive direct effect on seed yield. The implications of these findings in the selection of superior genotypes are discussed.

Key words: Genetic variability, melon, correlation, coefficient of variation, heritability.