

Genetic performance of 40 deli dura x avros pisifera full-sib families.

ABSTRACT

A total of 40 oil palm dura x pisifera progenies were planted on inland soil of the Serdang Series in Malaysia. They were evaluated for fresh fruit bunch (FFB), fruit components and agronomic traits. FFB production for the majority of the progenies was reasonably good for inland soil, ranging from 77.99 to 162.37 kg palm⁻¹ yr⁻¹. Analysis of variance showed no significant difference among the progenies, indicating lack of genetic variability for FFB and its components except average bunch weight (ABW). This was further supported by the low genotypic coefficient of variation (GCV), phenotypic coefficient of variation (PCV) and broad-sense heritability (h^2). However, greater genetic control was observed in the fruit components and agronomic traits. For example, the genetic variation for mesocarp to fruit (M/F) and shell to fruit (S/F) ratios contributed more than 40% to the phenotypic variation of the characters. Among the vegetative traits, leaflet length (LL) and rachis length (RL) exhibited similar magnitude in their GCV to PCV contribution. The lack of variability in some of the characters in these materials may be an obstacle to future breeding and selection. Introgression with new materials from the germplasm collection will likely broaden their genetic base for future breeding and improvement.

Keyword: Oil palm; Deli dura; AVROS pisifera; Heritability.