

**Genetic performance and general combining ability of oil palm Deli dura x AVROS pisifera tested on inland soils.**

ABSTRACT

The performance of 11 oil palm AVROS (Algemene Vereniging van Rubberplanters ter Oostkust van Sumatra) pisiferas was evaluated based on their 40 dura x pisifera (DxP) progenies tested on inland soils, predominantly of Serdang Series. Fresh fruit bunch (FFB) yield of each pisiferas ranged from 121.93 to 143.9 kg palm<sup>-1</sup> yr<sup>-1</sup> with trial mean of 131.62 kg palm<sup>-1</sup> yr<sup>-1</sup>. Analysis of variance (ANOVA) showed low genetic variability among pisifera parents for most of the characters indicating uniformity of the pisifera population. This was anticipated as the AVROS pisiferas were derived from small population and were inbred materials. However, some of the pisiferas have shown good general combining ability (GCA) for certain important economic traits. Three pisiferas (P1 (0.174/247), P3 (0.174/498), P11 (0.182/308)) were identified of having good GCA for FFB yield while pisiferas P1 (0.174/247), P10 (0.182/348), and P11 (0.182/308) were good combiners for oil-to-bunch ratio (O/B). The narrow genetic base of these materials was the main obstacle in breeding and population improvement. However, efforts have been made to introgress this material with the vast oil palm germplasm collections of MPOB for rectifying the problem.

**Keyword:** Oil palm; *Elaeis guineensis* Jacq.; AVROS Pisifera; Deli dura; Genetic performance; General combining ability.