

## **Genetic diversity assessment of MPOB-Senegal oil palm germplasm using microsatellite markers**

### **ABSTRACT**

Molecular characterization of oil palm germplasm is crucial in utilizing and conserving germplasm with promising traits. This study was conducted to evaluate the genetic diversity structures and relationships among 26 families of MPOB-Senegal oil palm germplasm using thirty-five microsatellite markers. High level of polymorphism (%), number of effective allele ( $A_e$ ), observed heterozygosity ( $H_o$ ), expected heterozygosity ( $H_e$ ), total heterozygosity ( $H_t$ ), and rare alleles (54) were observed which indicates that MPOB-Senegal germplasm has a broad genetic variation. Among the SSR markers, sMo00053 and sMg00133 were the most informative markers for discrimination among the MPOB-Senegal oil palm germplasm for having the highest private alleles and the rare alleles. For selection and conservation, oil palm populations with high rare alleles and Nei's gene diversity index should be considered as these populations may possess unique genes for further exploitation.