Comparing interfertility data with random amplified microsatellites DNA (RAMS) studies in Ganoderma Karst. Taxonomy

Abstract

The taxonomy of the causal pathogen of basal stem rot of oil palms, Ganoderma is somewhat problematic at present. In order to determine the genetic distance relationship between G. boninense isolates and non-boninense isolates, a random amplified microsatellites DNA (RAMS) technique was carried out. The result was then compared with interfertility data of G. boninense that had been determined in previous mating studies to confirm the species of G. boninense. Dendrogram from cluster analysis based on UPGMA of RAMS data showed that two major clusters, I and II which separated at a genetic distance of 0.7935 were generated. Cluster I consisted of all the biological species G. boninense isolates namely CNLB, GSDK 3, PER 71, WD 814, GBL 3, GBL 6, OC, GH 02, 170 SL and 348781 while all non-boninense isolates namely G. ASAM, WRR, TFRI 129, G. RES, GJ, and CNLM were grouped together in cluster II. Although the RAMS markers showed polymorphisms in all the isolates tested, the results obtained were in agreement with the interfertility data. Therefore, the RAMS data could support the interfertility data for the identification of Ganoderma isolates.