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- ABSTRACTS -

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Use of microsatellites for identification and genome analysis of cocoa genotypes

A-M Risterucci, D. Fargeas and C. Lanaud
CIRAD, Montpellier, France

The developement and application of molecular genetic markers provide the opportunity to established and evaluate measure of quality for genetic ressources collections. In particular DNA-based polymorphisms are a powerfull tool in the assesment of the genetic caracterisation. Among the various molecular markers, RFLPs were the first to be used for plant genome studies, on mapping and diversity analysis. However RFLPs are labour intensive and time consuming, and require a large quantity of DNA and for cocoa a purification by ultracentrifugation. PCR based techniques can be used to detect polymorphism, these methods do not require a so large quantity of DNA that RFLPs, and are convenient for genetic analysis on plant at early stage. Between PCR techniques, an advantage of the microsatellites, is the codominant mode of inheritance permitting easy transfer of markers between genetic maps of different crosses in contrast to the dominant PCR markers type based on arbitrary primer. Compared to the RFLPs, microsatellites detected more alleles and a higher level of polymorphism within cultivar variation, they are a powerfull tool for estimation of heterozygosity. Some results obtained on cocoa clones included in the CFC/ICCO/IPGRI project on Cocoa Germplasm Utilization and Conservation will be discussed. In a future, there is a possibility to construct a database for all microsatellite alleles on cocoa clones.