COMPARATIVE STUDY OF POLYMORPHISM LEVEL, DISCRIMINATION CAPACITY AND INFORMATIVENESS OF AFLP, ISTR, SSR AND ISOENZYMES MARKERS AND AGRO-MORPHOLOGICAL TRAITS IN AVOCADO

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AFLP, ISTR, SSR, isoenzyme markers and agro-morphological traits were compared in terms of their polymorphism level, discriminating capability and informativeness among 17 genotypes assembled in the Cuban avocado germoplasm, maintained at Alquízar under the auspices of the IIFT (Playa, Havana City, Cuba). *D* parameter adopted for agro-morphological traits was useful for genotype identification. Only four variables: fruit shape, fruit skin color, harvest season and fruit skin thickness were necessary for distinguishing all the individuals analyzed SSR, AFLP and ISTR were powerful techniques for avocado discriminating and varietal certification, but the high level of polymorphic loci detected by dominant markers highlights the discriminating capacity of these molecular markers. With a single AFLP or ISTR primer combination all the individuals were identified. Also, isoenzymes were a low-cost technique useful for this purpose in local germplasm. The higher values of expected heterozygosity were detected in codominant markers, but the value for microsatellites doubled or more those obtained with isoenzymes and dominant markers. The morphological diversity index was a good estimator of diversity among avocado accessions when variables of high heritability are used and comparable with the expected heterozygosity scored with isoenzymes and DNA markers. The value of this index was very close to those obtained with ISTR and AFLP. The assay efficiency index (A_i) and marker index (*MI*) had the same pattern of variation as *D*, *I*, I_u and *P* for all molecular markers. Then, both indexes probably reflect on the discriminating capability of avocado.