GENETIC RELATIONSHIP ESTIMATION OF TAIWAN AVOCADO CULTIVARS BY VOLATILE CONSTITUENTS OF LEAVES

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Volatile constituents of leave samples were analyzed to distinguish the genetic relationship among 46 Avocado (*Persea americana* Mill.) cultivars (28 from Taiwan and 18 from El Salvador). A solid phase microextraction (SPME) device was used to extract the volatile constituents from avocado leaves in heated headspace vial, and injected into GC-MS directly. The intensity of volatile aroma of avocado leaf in Mexican races was higher than Guatemalan and West-Indian races. Estragole and β-caryophyllene are the most abundant compounds in Mexican and Guatemalan races respectively, and can be used as indicators in races classification. The qualitative and quantitative results of GC-MS analysis were analyzed by principle component analysis (PCA) and cluster analysis to estimate the variation of individual cultivar races of avocado.