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Honey is a natural product with sweetening properties that is well known worldwide, produced by bees from flower nectar and plant secretions. Its physicochemical properties depend on the time of collection, environmental and agroclimatic factors of the biogeographical zones at the time of collection. The objective of this work was to evaluate sixteen samples of honeys produced in the mountainous area of the Colombian massif in the department of Cauca, which were characterized in terms of melisopalynology, nutritional composition, physicochemical properties and volatile compounds. Analyses of the volatile components collected by the Trap and Purge extraction technique and analyzed by GC/MS were performed. Pollen grains for some of the samples were higher than 45%, conferring a monofloral quality. The pfund color of the honeys ranged between 73.0 ± 0.90 and 150.0 ± 0.01 pH between 3.86 ± 0.01 and 5.09 ± 0.01 total acidity 7.37 ± 0.04 and 25.82 ± 1.40 meq kg⁻¹, still within standard limits, electrical conductivity 0.525 ± 0.004 mS cm⁻¹, moisture 18.9 ± 0.43 g 100 g⁻¹ and 23.6 ± 0.24 g 100 g⁻¹, ash 0.198 ± 0.004 , reducing sugars 65.3 ± 0.36 g 100g⁻¹, total phenols 1586 ± 24 mg kg⁻¹ A. Ga, flavonoids 137.4 ± 1.26 mg kg⁻¹. Tabouret index 3.82 ± 0.05 based on 1.35 ± 0.03 fructose/glucose ratio and 0.638 ± 0.045 water activity. The honeys show Newtonian behavior. GC/MS analysis allowed the identification of 27 volatile compounds, including alcohols, ketones, aldehydes, acids, terpenes, hydrocarbons, benzenes and furan derivatives. 2-Methyl-1-propanol, D-Limonene and 2-Furanmethanol, Acetaldehyde, 2-Propanol and 2-Butanol are the most commonly identified, as well as others such as Acetone, Toluene, 2-Butanone, 2-Methyl pentane, Ethanol, 2, 3-Pentadione, n-Octane, 2-Methoxy-1-propene, Nonanal, 4-Methyl-1,3-pentadiene, Ethyl acetate, Propanedioic acid, 3-Methyl-1-butanol, Furfural, Butyrolactone, 1-Pentanol and 1-Butanol among others.