

Diterpenes profile in high-quality Robusta coffeeVIENCZ¹,T.; ACRE²,L.B. ; RAMALHO³,A.R.; ROCHA⁴,R.B.; ALVES⁵,E.A.; BENASSI⁶,M.T.¹Universidade Estadual de Londrina – PR, thayviencz@hotmail.com²Universidade Estadual de Londrina – PR, lucasbonfanti97@gmail.com³Embrapa Rondônia – RO, andre.rostand@embrapa.br⁴Embrapa Rondônia – RO, rodrigo.rocha@embrapa.br⁵Embrapa Rondônia – RO, enrique.alves@embrapa.br⁶Universidade Estadual de Londrina – PR, martatb@uel.br

Abstract: Studies of genetical enhancement of *Coffea canephora* through plant selection and cloning have done relevant contributions in agronomic parameters and in the quality of the beverage. Some Robusta coffees produced in the Amazon Region in Brazil, in addition of high productivity and disease resistance, had shown quality of beverage of specialty coffees. The diterpenes are coffee bioactive compounds associated with several benefits for human health. For *Coffea arabica*, there are indication that these compounds could also impact in cup quality; however, diterpenes data in *C. canephora* are still scarce. The aim of this study was to characterize the diterpenes profile of Robusta clones from the Amazon Region. Thirty samples of high-quality Robusta coffee (PDRF from 75 to 85) were studied. The coffees were harvested in Ouro Preto do Oeste/RO and provided by Embrapa Rondonia. The beans were light medium roasted. The extraction of diterpenes was performed after direct hot saponification. Contents of kahweol, cafestol and 16-*O*-methylcafestol (main *C. canephora* diterpenes) were determined in UPLC using UV detection, Supelcosil LC-18 column (150 x 3 mm, 3 µm) and isocratic elution (water and acetonitrile). The total diterpenes content ranged from 242 to 707 mg 100 g⁻¹, higher than the reported in literature. Kahweol was present in all samples (18 to 47 mg 100 g⁻¹), which is a differentiated behavior for this species. Cafestol, usually the main diterpene for *C. canephora*, was observed in a wide range (64 to 349 mg 100 g⁻¹; CV 39%). 16-*O*-methylcafestol, proposed as potential discriminator of coffee species since is almost specific of *C. canephora*, was also verified within a large range (98 to 390 mg 100 g⁻¹) in contents higher than the usually reported. High-quality Robusta coffee from Amazon Region showed diversity in the diterpenes profile, but higher content than the usually described for the species.

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Palavras-chave: *Coffea canephora*; kahweol; cafestol