Centro Universitário Estadual da Zona Oeste, Brazil; [4]Federal Rural University of Rio de Janeiro, Brazil

Composition of Caiaué oil produced in Brazil Caiaué (Elaeis oleifera Kunth) is a native plant from South and Central Americas. Its fruits are similar to those of oil palm (Elaeis guinensis Jacq.), although its oil has a different composition. Caiaué was initially explored as a genetic resource in oil palm breeding programs, since these two species can be crossed producing fertile hybrid decendents. Recently, some Brazilian companies started extracting caiaué oil expecting to obtain a more nutritionally attractive composition as compared to palm oil. Therefore, in this study two samples of caiaué oil from 2018 harvest were assessed regarding their fatty acid composition, that were analyzed by GC-FID; tocochromanols and carotenoids, by HPLC-DAD simultaneous method; and acidity, refractive index and density, according AOCS methods. The caiaué oil fatty acid composition showed lower contents of saturated fatty acids (C16:0 26.4-26.7%) than both palm oil and palm olein, and higher values of unsaturated fatty acids, with C18:1 (54.7-55.7%) and C18:2 (15.5-17.0%) the major ones. The main tocochromanol was γ-tocotrienol, which represents 80-82% of the total tocochromanol values (979-1328 μg/g). The main carotenoids were the pro-vitamin A all-trans-α-carotene and all-trans-β-carotene, which together account for 64-69% of total carotenoids values (2145-2330 μg/g). Acidity was 1.1-1.3% (as oleic acid), refractive index (40°C) was 1.4615-1.4618, and relative density (40°C/20°C) was 0.898-0.899. The obtained results indicate that caiaué oil analyzed in this study showed lower tendency for stearin formation during storage as compared to other similar oils, as well as a good composition from the nutritional point of view.

22. The sterol profile of high oleic palm oil produced in Brazil. Rosemar Antoniassi[1], Allan E. Wilhelm[1], Adelia F. Faria-Machado[1], Andréa M. Guedes*[1], and Paôla A. da Costa[2], *[1]Embrapa Food Technology, Brazil; [2]Federal Rural University of Rio de Janeiro, Brazil*

The sterol profile of High Oleic Palm Oil produced in Brazil Interspecific palm hybrids obtained from the cross breeding between African oil palm (Elaeis guineensis Jacq.) and American palm, caiaué (Elaeis oleifera Kunth), present an oil called "High Oleic Palm Oil" due to its higher content of oleic acid, as well as higher content of bioactive compounds such as carotenoids and tocotrienols, when compared to palm oil. The Brazilian production is around 7,000 tons, which can reach over 40,000 tons of oil per year due to the increase in cultivated area. The fatty acid composition and sterol profiles are the main identity characteristics presented in the Codex Alimentarius Standards for fats and oils and there are no data for sterol profile for this oil produced in Brazil. The unsaponifiable matter and the sterol fraction were obtained according to AOCS Official Method. The gas chromatography analysis was performed using an Agilent 7890 fitted with a methyl silicone (25 m X 0.32 mm X 0.17 μm) column, and oven temperatures from 260 to 290°C at 3°C/min. Injector and detector were kept at 300°C. The ranges obtained for sterol profile were: Cholesterol (1.7 – 2.7%), Campesterol (17.4 – 20.4%), Stigmasterol (11.2 – 13.6%), Beta-Sitosterol (62.4 – 67%), and Delta-5-avenasterol (ND – 1.8%). The total sterols ranged from 521 to 785 mg/kg. The High Oleic Palm Oil produced in Brazil showed narrower ranges compared to that of palm oil and palm olein from Codex Alimentarius Standard; and Cholesterol content was lower for the Brazilian Oil. These results are useful for the High Oleic Palm Oil Standard proposed to Codex Alimentarius.