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ORIGINAL PAPER

Annona squamosa and Catunaregam nilotica Seeds, the Effect of the Extraction Method on the Oil Composition

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Abstract Annona squamosa and Catunaregam nilotica seeds and oils were characterized for their approximate analysis and physico-chemical properties. The oil and protein contents were 26.8, 17.5 and 40.0, 22.2%, in A. squamosa and C. nilotica seeds, respectively. The oils were extracted using cold extraction (CE) and Soxhlet extraction (SE) methods. Fatty acids and tocopherols were determined by GC–MS and HPLC, respectively. Generally the physico-chemical properties and fatty acids were not significantly (P B 0.05) affected by the extraction methods. The major fatty acids of A. squamosa oil extracted by CE and SE were oleic 49.2 and 50.5%, linoleic 22.3 and 22.7%, palmitic 15.6 and 15.2%, and stearic 10.6 and 9.3%, respectively. While the major fatty acids in C. nilotica oil extracted by CE and SE were oleic 10.5, and 10.4%, linoleic 63.1 and 63.4%, palmitic 9.7 and 9.8% and stearic 5.1 and 5.4%, respectively. The tocopherol content of CE and SE extracted oils from A. squamosa amounted to 16.6 and 15.5 and from C. Nilotica amounted to 110.5 and 107.7 mg/100 g oil, respectively, with delta-tocopherol as the predominant tocopherol in A. squamosa oil, and beta-tocopherol in C. nilotica oil. The total amount of amino acids was found to be 7.266 and 14.202 g/100 g protein, in seeds of A. squamosa and C. nilotica, respectively.

Keywords Amino acids _ Annona squamosa _ Catunaregam nilotica _ Extraction method _ Fatty acids _ Physicochemical properties _ Seed oil _ Tocopherol