

Evaluation and Characterization of *Ocimum basilicum* (L.) Seed Oil

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The physicochemical properties and the fatty acid, tocopherol, DSC, H NMR, FTIR, UV-Visible profiles of non-conventional oil extracted from *Ocimum basilicum* (L.) seeds were evaluated. The oil content of the *O. basilicum* seeds was 22.5%. The main fatty acids in the oil were linolenic acid (54.70%) followed by linoleic acid (20.32%), oleic acid (12.07%), palmitic acid (7.82%), and stearic acid (4.03%). The tocopherol content was 127.85 mg/100 g with γ -tocopherol as the major one (91.25%). Physicochemical properties of the oil were iodine value (182.70 g/100 g of oil); refractive index (1.4762); kinematic viscosity (16.30 mm²/s), acidity (2.35%) and peroxide value (15.29 meq. O₂/kg of oil). In addition, the oil content of carotenoids and chlorophylls were 0.575 mg/kg and 0.897 mg/kg, respectively. Furthermore, *O. basilicum* seed oil showed some absorbance in the UV-B and UV-C ranges. The present study showed that this non-conventional *O. basilicum* seed oil can be used for food and non-food applications to supplement or replace some of the conventional oils.