

Comparative Analysis of Oil Extracts from Cotton and Watermelon Seeds

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Abstract : This research investigated the comparative analysis of oil extracted from cotton and watermelon seeds using solvent extraction process. Normal ethyl-ether was used as solvent in the extraction process. The AOAC method of Analysis was employed in the determination of the physiochemical properties of the oil. The chemical properties of the oil determined include the saponification value, free fatty acid, iodine value, peroxide value and acid value. The physical properties of the oil determined include specific gravity, refractive index, colour, odour, taste and pH. The value obtained for cottonseed oil are saponification value (187mgKOH/g), free fatty acid (5.64mgKOH/g), iodine value (95.2g/100), peroxide value (9.33meq/kg), acid value (11.22mg/KOH/g), pH value (4.62), refractive index (1.46), and specific gravity (0.9) respectively, it has a bland odour, a reddish brown colour and a mild taste. The values obtained for watermelon seed oil are saponification value (83.3mgKOH/g), free fatty acid (6.58mg/KOH/g), iodine value (122.6g/100), peroxide value (5.3meq/kg), acid value (3.74mgKOH/g), pH value (6.3), refractive index (1.47), and specific gravity (0.9) respectively, it has a nutty flavour, a golden yellow colour and a mild taste. From the result obtained, it shows that cottonseed oil has high acid value which shows the stability of the oil and its stability to rancidity. Consequently, watermelon seed oil is order wise.

Keywords : extraction, solvent, cotton seeds, watermelon seeds

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