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Effect of storage on physico-chemical of properties of oils

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Physico-chemical properties of different vegetable oils (groundnut, soyabean, sunflower, palmolein, rice bran and mustard) were affected during storage for 30 days under household conditions. There was an increase in specific gravity of sunflower oil (0.922), with the lowest value being for palmolein oil (0.893). In case of peroxide values, palmolein showed the highest value, while rice bran and mustard oil showed lower values as compared to other oils. Sponification value increased in a small ratio during storage. Palmolein and rice bran oil showed high sponification values. However, mustard oil showed the lowest amongst all oils. In addition, free fatty acid content was determined to check the rancidity of oils. Palm oil showed the highest (1.1) free fatty acid (FFA) percentage, while sunflower showed the lowest (0.25). FTIR spectra of groundnut oil revealed the presence of peaks corresponding to C-H (alkane) stretching at 2924.39 cm⁻¹ and 2854.73 cm⁻¹ having absorbance of 0.015764 and 0.007186, respectively. Gas Chromatography showed palmitic acid and stearic acids were the saturated fatty acids and their percentage was higher in palmolein oil (40.17% and 4.14%) than other oils. Soyabean oil showed a higher proportion of linolenic acid (unsaturated fatty acid) but palm oil showed a lower proportion. Linolenic acid in mustard oil was in higher proportion but was lower in palmolein oil it. Gas chromatography analysis revealed that the percentage of trans-fat was the lowest for mustard oil which indicated that it was best oil to be used for frying purposes in terms of health benefits.

Biography

Karandeep singh has done B-tech in food science and technology from Guru Nanak Dev University. His area of research is shelf- life, Nutrition, human health under supervision of Assistant Prof. Amritpal kaur.n On that period his work on topic Effect of Storage on Physico-Chemical of Properties of Oils

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