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Effect of Storage on Physico-chemical Characteristics and Fatty Acid Composition of Selected Oil Blends

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ABSTRACT An attempt was made to prepare oil blends with SFA:MUFA:PUFA ratios very close to the recommended ratio by admixing oils with different fatty acid composition, in the ratios of 80:20 and 20:80 because of its important health benefits and the possibility of developing nutritionally superior oils with recommended fatty acid ratios and their effect during storage in rice bran and mustard based blends with sesame oil as control, was studied. These blends were stored for 12 months and their physico-chemical changes and fatty acid composition were studied every month till the end of the storage period. Significant changes ($p<0.005$) were observed. Slight variations of increase in saturated fats and decrease in unsaturated fats were seen over time. Fatty acid composition and changes during storage of control indicated that control was efficient in C-18:3. During storage there is a gradual increase in C-16:0 from 10.03 to 11.89, C-18:0 from 5.26 to 5.86, and a gradual decrease in C-18:1 from 37.94 to 33.05, C-18:2 from 46.74 to 44. The principal fatty acid seen in sesame-rice bran blends were C-18:1 at a level of 45.65 and 38.35 followed by C-18:2, 29.66 and 39.16 and C-16:0 at a level of 16.54 and 13.35 respectively while C-18:0 was present in low quantities and C-18:3 was found to be negligible. The major fatty acids seen in sesame-cottonseed blends were C-18:2 at 43.82 and 37.95 followed by C-18:1 at 38.55 and 40.77 and C-16:0 at 11.8 and 17.58 respectively for the blends of 80:20 and 20:80. Lesser quantities of C-18:0 of 4.45 and 2.44 and C-18:3 of 0.68 and 0.77 were also observed.