

**EFFECT OF GAMMA IRRADIATION ON FATTY ACID PROFILE
OF SORREL SEEDS (*HIBSCUS SABDARIFFA*)**

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The effects of gamma irradiations at different dose levels on the fatty acid profile and physic-chemical properties of Sorrel seeds (*Hibiscus sabdariffa*) oil samples were determined at 0, 2.5, 5, 10, and 20 kGy gamma irradiation doses respectively. The fatty acids and physic-chemical properties (peroxide value, free fatty acid value and saponification value) of the seed oil were determined using standard methods of analysis. There was significant steady increase in peroxide values (meq O₂/Kg oil) ranging from 1.38±0.02 (at 0 KGy gamma irradiation) to 9.43 ±0.41 (20 KGy gamma irradiation), saponification value ranges from 173.41±0.78 (at 0 KGy gamma irradiation) to 206.48±4.52 (at 10 KGy gamma irradiation) and free fatty acid (mg KOH/g oil) ranges from 1.39±0.13 to 2.92±0.03 at 0 KGy gamma irradiation and 20 KGy gamma irradiation levels respectively. Gas chromatography (GC) analysis results of the oil revealed an increase in the amount of total saturated fatty acids ranging from 24.33 to 33.28 at 0 and 20 KGy gamma irradiation levels respectively. There was decrease in the amount of total polyunsaturated fatty acids in the triacylglycerol composition of the 20 KGy gamma irradiated samples compared with the un-irradiated samples. An inducement of trans-fatty acids at 20 kGy was also observed.

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