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JUMP TO--Select-- American Journal of Food Technology **RSS**Title: Irradiation and Packaging-Food Safety Aspects and Shelf Life Extension of Solar Dried Garlic (*Allium sativum*) PowderAuthor: [Nizakat Bib](#), [Amal Badshah Khattak](#), [Aurang Zeb](#) and [Zahid Mehmood](#)

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Abstract: Influence of gamma irradiation and packaging material on physicochemical characteristics (moisture, protein, ascorbic acid, pH, mineral contents and browning value) and shelf life extension of garlic powder was investigated. Garlic cloves were meshed with skin, dried in solar dryer and then ground to 100 mesh. The dry powder was packed in polyethylene pouches of 0.015 (PE1), 0.03 mm (PE2) and polypropylene bottles (PP) of 0.1 mm thickness. One part of the packed samples was irradiated with 1.0 k Gy gamma rays and the other one kept as control. The data revealed no effect of irradiation on moisture (8.02-8.29%) and protein (13.00-13.30%) content during storage. The ascorbic acid content decreased from 20.82 to 19.56 mg 100 g⁻¹ in irradiated and control samples and maximum retention of this vitamin was noted in samples packaged in polypropylene bottles. The effect of irradiation and packaging material on mineral content in garlic powder was also non-significant. The browning value increased from 0.17-0.22 ΔA420 in irradiated and control samples. Irradiation improved the microbial quality of the product in all the packaging materials throughout the entire storage period. It is inferred from this study that the irradiated solar dried garlic powder packaged in polypropylene (PP) pouches can be stored beyond 5 months with no significant change in quality, appearance and nutrients.

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