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Effects of Irradiation on Protein Electrophoretic Properties, Water Absorption and Cooking Quality of Dry Bean and Chickpea

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Effects of gamma-irradiation at doses of 1, 5, 10 kGy on electrophoretic patterns of insoluble proteins, water absorption properties and cooking quality of dry bean and chickpea samples were investigated. SDS-PAGE patterns of the samples in each variety did not differ in terms of relative mobilities. The densitometric analysis results indicated that the effects of irradiation on SDS-PAGE patterns of dry bean and chickpea proteins seem to be minor. Generally, lower irradiation doses did not significantly affect the water absorption properties of the food legumes. On the other hand, the dry and wet cooking times of the irradiated samples were found to be significantly reduced in all dry bean and chickpea samples.

Keywords: gamma-irradiation, chickpea, dry bean, SDS-PAGE, cooking quality

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