B-67: Long term storage studies and consumer acceptance survey of irradiated spices

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The feasibility of gamma irradiation for decontamination and long term storage of species has not been studied in Sri Lanka..

Long term storage studies were conducted on irradiated spices such as pepper, turmeric and chilli powder. The samples were irradiated at a dose of 10 KGY. The changes in the initial infestation and subsequent reinfestation status were observed for 3, 6, 8 and 12 months. Results indicated that irradiation upto a dose of 10 KGY completely decontaminated the micro-organisms. Irradiated samples did not show any variation in microbial count after a storage period of 3, 6, 8 and 12 months respectively. The predominant micro-organisms in these spices were *Aspergillus* spp, *Rhizopus* spp and *Bacillus* spp.

The colour intensity of turmeric was measured as extractable curcumin in ethanol. There was no significant difference observed between irradiated and unirradiated samples. Curcumin content showed minimum variation during storage. While no significant difference was observed between irradiated and unirradiated chilli samples, an overall reduction in colour was observed during storage.

A consumer acceptance study was conducted using a sample population. The questionnaire was formulated so as to collect information on consumer awareness with regard to irradiated foods and their acceptability within the given population. Results revealed that 33.33% of the sample population were not aware of this technology while 16.6% showed their willingness to accept such products. Results indicated that acceptability of food irradiation technology was low as a result of the lack of adequate consumer awareness and knowledge on the subject.

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