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Sanitation of Ingredients and Final Product by Gamma Irradiation Improve Storage Stability of *Squid Jeotkal*

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Ingredients for manufacturing a low salted (< 8%) and fermented *Squid Jeotkal* and a commercial final products were irradiated at 0, 0.5, 1.0, 2.0, and 5.0 kGy by gamma ray and stored at 4°C for 28 days to determine quality and storage stability. *Squid Jeotkal* was manufactured in a commercial plant and the ingredients used for this study were also obtained from the plant. *Squid Jeotkal* was observed its initial contamination of total aerobic bacteria, yeast and mold, and coliform at 6.8, 4.5, and 5.0 log CFU/g, respectively. However, irradiation dose at 1 kGy reduced the total aerobic bacteria up to 4.9 log cycle at Day 0. Yeast and mold significantly reduced after irradiation at 2 kGy during whole storage ranged 1 to 2.4 log CFU/g. Coliform was not detected within the detection limit (<10¹ CFU/mL) with any irradiation dose from day 7 to 28. Among the ingredients, red hot pepper powder showed the highest total aerobic bacteria than other ingredients, yet 5 kGy irradiation significantly reduced the number by 4.5 log cycle (P<0.05). Sensory evaluation showed that gamma irradiation with doses of 0.5, 1.0, 2.0, and 5.0 kGy did not adversely affect overall acceptability of *Squid Jeotkal* and its ingredients during cold storage for 28 days.

P4-2

Effect of Aqueous Chlorine Dioxide and Citric Acid Treatment on the Reduction of *Escherichia coli* for Radish Seeds and Sprouts

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The efficacy of a 2.0% citric acid and aqueous chlorine dioxide(ClO₂) treatment of radish seeds artificially contaminated with *E. coli* was studied. Radish seeds were inoculated with *E. coli*. After inoculation, samples were stored at 4°C and dipped in citric acid or aqueous chlorine dioxide for 10 min. Treatment of radish seeds with aqueous ClO₂ solution caused 1.5 log cfu/g reductions in the number of *E. coli*. Dipping of radish seed in 2.0% citric acid solution for 10 min were more effective than aqueous ClO₂ treatment for reducing *E. coli* populations on radish seed. *E. coli* populations reached > 7.0 log on