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Process development for utilization of fermented tofu whey as a source of tofu coagulant and antioxidants

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ABSTRACT : Tofu whey is the liquid waste in tofu production industries, contains valuable compounds such as non-digestible oligosaccharides (NDO), which promote the growth of beneficial lactic acid bacteria in the colon and is currently discarded by the food industry. Tofu whey was reported that it was used as a growth medium for the production of lactic starters and substituting for expensive basal medium for the production of L- Lactic acid by lactic acid bacteria. In this study, fermented tofu whey (TW), a by-product of tofu industry was investigated for the preparation of tofu, micro flora and chemical changes of TW during tofu whey fermentation. The gel properties of tofu coagulated with fermented TW were also studied. During the fermentation stages the change of lactic acid bacteria (LAB) was found. The pH value, protein, carbohydrate, organic acid changes during the production of fermented tofu whey were studied. It was found that the pH value of acidic whey had a significant effect on coagulation properties of TW tofu. The microbiological findings in this study have clearly demonstrated the presence of the high counts of LAB investigated and a large amount L-lactic acid produced by LAB must have act as the main tofu coagulant.

KEY WORDS : Tofu whey, Antioxidant, Coagulant, Fermentation, LAB

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