

Production of Soy Yoghurt Using Soymilk-Based Lactic Acid Bacteria as Starter Culture

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Abstract : Production of soy-yogurt by fermentation of soymilk with lactic acid bacteria isolated from soymilk was studied. Soymilk was extracted from dehulled soybean seeds and pasteurized at 95 °C for 15 min. The soymilk was left to naturally ferment (temperature 40 °C; time 8 h) and lactic acid bacteria were isolated, screened and selected for yogurt production. Freshly prepared soymilk was pasteurized (95 °C, 15 min), inoculated with the lactic acid bacteria isolated (3% w/v starter culture) and incubated at 40 °C for 8 h. The yogurt produced was stored at 4 °C. Investigations were carried out with the aim of improving the sensory qualities and acceptability of soy yogurt. Commercial yogurt was used as a control. The percentage of soymilk inoculated was 70% of the broth. Soy-yoghurt samples produced were subsequently subjected to biochemical and microbiological assays which included total viable counts of fresh milk and soy-based yoghurt; proximate composition of functional soy-based yoghurt fermented with *Lactobacillus plantarum*; changes in pH, Titratable acidity, and lactic acid bacteria during a 14 day period of storage; as well as morphological and biochemical characteristics of lactic acid bacteria isolated. The results demonstrated that using *Lactobacillus plantarum* to inoculate soy milk for yogurt production takes about 8 h. The overall acceptability of the soy-based yogurt produced was not significantly different from that of the control sample. The use of isolate from soymilk had the added advantage of reducing the cost of yogurt starter culture, thereby making soy-yogurt, a good source of much desired good quality protein. However, more experiments are needed to improve the sensory qualities such as beany or astringent flavor and color.

Keywords : soy, soymilk, yoghurt, starter culture

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