

**ISOLATION AND CHARACTERIZATION OF *Lactobacillus* STRAINS FROM DOMESTIC CURD AND INVESTIGATION OF CURD FORMING ABILITY**

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Curd is a popular fermented milk product in Sri Lanka. The main group of bacteria that contributes to the curdling of milk is the group of lactic acid bacteria (LAB). The curdling of milk is the result of protein coagulation due to acidity. These LAB produce either lactic acid alone or a mixture of end products where the main component is lactic acid. *Lactobacillus* species are one of the main members of LAB that cause the curdling of milk. The present study focused on isolating bacteria that contribute to curdling from domestically produced curd in Sri Lanka and evaluating their relative curdling ability individually. Using two curd samples, four strains were isolated on De Man, Rogosa, and Sharpe (MRS) agar containing L-cysteine (0.2%) which were labelled as A, C, D and G. All four cultures were tested on the *Lactobacillus* and *Streptococcus* differential agar and were found to be reddish and rhizoidal surrounded by an opaque zone. For the characterization, Gram's staining, Endospore staining, Motility test, Growth aerobically, Growth anaerobically, Catalase test, Oxidase test, Glucose acid/gas test, Oxidation-Fermentation test and Arginine hydrolysis test were done. All four isolates were *Lactobacillus* species. The isolates were tested for their ability to form good curd which was observed by the visual solidity, and the isolate G was found to be the best culture for the formation of curd. The isolate C was better than cultures A and D. Some liquid was left on curds when isolates A and D were used. A combination of cultures G and C can be investigated further as starter cultures. Culture A and D could also be used as starter cultures for the formation of less solid curd that may be suitable to make drinking curd, as drinking yoghurt.

**Keywords:** Curd, Fermented milk product, Lactic acid bacteria, *Lactobacillus* species, Starter culture