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# Bioprospecting of indigenous lactic acid bacteria abundant in buffalo curd as a starter culture

Gunathunga C.J.[1], Undugoda L.J.S.[1*], Nilmini A.H.L.[1], Nugara N.N.R.N.[1], Udayanga D.[1], Pathmalal M.M.[2,3]

*[1] Department of Biosystems Technology, Faculty of Technology, University of Sri Jayewardenepura, Sri Lanka*
*[2]Faculty of Graduate studies, University of Sri Jayewardenepura, Sri Lanka*
*[3] Centre for water quality and algae research, Department of Zoology, Faculty of Applied Sciences, University of Sri Jayewardenepura, Sri Lanka*

Traditional Sri Lankan buffalo curd is a good source of indigenous lactic fermenting bacteria. Due to the traditional undefined culture inoculation pattern in the buffalo curd production it has carried forward highly adaptive lactic acid bacteria which have the capability of controlling post-acidification and syneresis in curd. Thus, this attempt was directed towards the isolation of indigenous lactic acid microflora from artisanal buffalo curd to be used as a starter culture and checking their potential in producing high quality yoghurt with low post-acidification and low syneresis. Lactic fermenting bacteria were isolated from curd samples collected from small scale buffalo curd producers in areas such as Kantale, Suriyawewa, Tissamaharama, Ampara and Kurunegala using De Man, Rogosa and Sharpe (MRS) agar and M17 agar medium. Chemical and sensorial characteristic development capabilities of isolated monocultures were tested and their probiotic activity was evaluated by antibiotic susceptibility tests. The pH and titratable acidity of the coagulated yoghurts were checked to evaluate post-acidification and syneresis of the yoghurts were determined using the centrifugation method. Forty-eight lactic acid bacterial strains were isolated from different buffalo curd samples and out of them twenty isolates were able to coagulate tested milk samples. Ten monocultures showed low post-acidification and low syneresis in prepared yoghurt samples during cold storage. Therefore, these monocultures can be used to formulate polyculture based defined starter cultures for the production of fermented dairy products.

**Key words:** *Buffalo curd, monocultures, post-acidification, syneresis*

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*Corresponding author: lankaundugoda@sjp.ac.lk