The AJAS THE ASIAN JOURNAL OF ANIMAL SCIENCE
Volume **13** | Issue 1 | June, 2018 | 1-9
◆ eISSN–0976–8963

DOI : 10.15740/HAS/TAJAS/13.1/1-9
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***RESEARCH ARTICLE*.....**

Process optimization for propagation of *Lactobacillus acidophilus* NCFM LYO 10D

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ABSTRACT..... The present work was under taken to optimize the propagation of *L. acidophilus* in different mediums for blending into the functional weaning food. A strain of probiotics namely *Lactobacillus acidophilus* NCFM LYO 10D was propagated in whey medium using different prebiotics such as honey, carrot and tomato (CT) juice and whey protein hydrolysate (WPH). The study revealed that 1.5 per cent inoculum and incubation for a period of 15 h incubation at 37^{0}C is optimum for obtaining the maximum effect in decreasing pH of whey medium. The addition of honey has significant effect in decreasing the pH of whey medium upto 2 per cent honey. Supplementation of honey was also found to have significant effect on the viable count of La-N. The extent of increase in viable count was found be significant upto 2 per cent level. The supplementation of CT juice at a level of 4 per cent was found to have significant effect in decreasing pH and highest viable count. WPH addition has significant effect increase in acidity and decrease pH of whey medium upto 1.5 per cent level. The viable count of La-N significantly increased upon supplementation of WPH. It was concluded that best combination for propogation of La-N in whey medium was found to be supplementation of honey upto 2 per cent, CT juice at a level of 4 per cent, WPH addition upto 1.5 per cent in whey medium and adding 1.5 per cent inoculum and incubating for 15 h at 37^{0}C.

KEY WORDS..... Propagation, *Lactobacillus acidophilus*, NCFM LYO 10D

HOW TO CITE THIS ARTICLE - Mahadevaiah, Jayaprakasha, H.M. and Suresha, K.B. (2018). Process optimization for propagation of *Lactobacillus acidophilus* NCFM LYO 10D. *Asian J. Animal Sci.*, **13**(1): 1-9. **DOI : 10.15740/HAS/TAJAS/13.1/1-9.**

ARTICLE CHRONICLE - Received **:** *03.03.2018;* Revised **:** *10.05.2018;* Accepted **:** *21.05.2018*

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