

**ENHANCING THE SURVIVAL OF
Lactobacillus acidophilus IN ACIDOPHILUS MILK BY
INCORPORATING *Maranta arundinacea*
(ARROWROOT) EXTRACT**

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By

MOHAMED RAZEEK MOHAMED RIZWAN

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ABSTRACT

Acidophilus milk is a traditional fermented beverage produce using *L. acidophilus*. It gives many health benefits. To produce desired benefits there should be minimum 10^6 - 10^7 CFU of probiotic bacteria /g or mL of product at the time of consumption. One of the main problems of food industry is viable *L. acidophilus* colonies declined with the storage time. As a solution incorporation of prebiotics such as fructo-oligosaccharides can be used to enhance the survival of probiotic bacteria. Arrowroot contains 29.1 mg/g of FOS. Therefore the extract of arrowroot rhizomes can used to enhance the survival probiotic bacteria in dairy products. This study was done to access the effect of water soluble extract of arrowroot on the survival of *L. acidophilus* in acidophilus milk during refrigerated condition. Extract of prebiotic compounds were done using water extraction 40 °C and 70 °C. Arrowroot powder was prepared by oven dry method. The acidophilus milk was prepared using the method of Yildiz with some modifications. Incorporation levels of prebiotics were identified by doing preliminary trials. Almond and Lemon flavor were selected as best to incorporate in acidophilus milk. Results were analyzed by using SAS. According to the results, most desirable method to enhance the survival of *L. acidophilus* in acidophilus milk during refrigerated storage is the incorporation of 45% (v/v) Arrowroot extract obtained by water extraction method under 40 °C. Lemon flavored acidophilus showed good consumer acceptance.

Keywords: Acidophilus milk, Arrowroot, Probiotics, *L. acidophilus*