

RESEARCH PAPER

Sensory quality of yoghurt from cow milk by utilizing guava fruit

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ABSTRACT

Guava fruit yoghurt was prepared from cow milk standardized to 4 per cent fat and added with 3 per cent SMP. Starter culture of *S. thermophilus* and *L. bulgaricus* (1:1) was added at the rate of 3 per cent and incubated at 43°C for 3-4 hrs. Two levels of sugar viz., 6 and 9 per cent and three levels of guava pulp viz., 5, 10 and 15 per cent leading to six treatment combinations and control sample without guava pulp having 6 per cent sugar was prepared for comparison. The chemical quality of milk and guava pulp were evaluated by using standard procedures while, the sensory quality of yoghurt was evaluated by using 100 point score card. Factorial randomized block design with four replications was used for statistical analysis. The average score for flavour, body and texture, acidity, colour and appearance of guava yoghurt samples under different treatments differed significantly ($P < 0.05$) from control sample. Similarly, it differed significantly within the treatments. Their interaction had non-significant effect on all sensory characteristics. Sample 5% pulp and 6% sugar had good blend of natural flavour of guava and yoghurt, desired body, smooth texture with attractive colour and appearance and hence, rated best among all treatments including control sample.

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The production of fermented milk products is increasing rapidly in all major developing countries of the world. Yoghurt is also one of the fermented milk products just like Indian dahi. A growing interest towards the consumption of yoghurt is due to its higher nutritional and therapeutic properties. There has been a good demand for fruit yoghurt (Rocksissen, 1977) in the world market. Sweet fruit yoghurt is preferred by children, adolescents and the aged. Though we consume dahi, fruits are rarely added into it. Hence, there is great scope to popularize yoghurt, particularly fruit yoghurt in India in place of dahi. There is very limited work on yoghurt in India. However, Vedamuthu (1979) has pointed out that there is excellent potential for yoghurt under Indian set up. It is, therefore, essential to provide appropriate technology for manufacture of fruit yoghurt to large scale producers as well as housewives.

Guava is fourth most important local fruit, so far as area under cultivation and production in India is concerned. Guava is a rich source of Vit. C, pectin and good source of calcium and phosphorous. It is referred as 'apple of plains' due to its high nutritive value with mild flavour. Therefore, guava yoghurt will have definite advantage over plain yoghurt. Further, high pectin content in guava would reduce the amount of stabilizing and gelling agent, which are usually added to reduce syneresis. (Phadnis, 1970) In view of the above points, the present investigation was undertaken on preparation of guava

yoghurt.

MATERIALS AND METHODS

Guava fruit yoghurt was prepared as per the method adopted by Sharma and Singh (1981) with slight modification as cow milk standardized to 4 per cent fat and added with 3 per cent SMP. After adding the sugar and pectin (0.2%), it was pasteurized at 85°C for 30 min. and was cooled to 40°C. Starter culture of *S. thermophilus* and *L. bulgaricus* (1:1) was added at the rate of 3 per cent and the content filled in plastic cups was incubated at 43°C for 3-4 hr. Pulp of well cleaned guava fruits (cultivar : Lucknow-49) was added in the product. The contents were stirred and cooled before presentation for sensory evaluation.

Yoghurt samples were prepared using two levels of sugar viz. 6 (S_1) and 9 (S_2) per cent and three levels of guava pulp viz., 5 (P_1), 10 (P_2), 15 (P_3) per cent leading to six treatment combinations. Moreover, a control sample without guava pulp having 6 per cent sugar was prepared for comparison. The chemical qualities of milk viz., fat, total solids, lactose and pH, titratable acidity were determined as per IS : 1224 (Part-I), 1977, IS : 1479 (Part-II), 1961, IS : 1479 (Part-I), 1960, respectively. The chemical analysis of guava pulp viz., total soluble solids, pH, reducing sugars, total sugars and titratable acidity were determined as per the Erma hand refractometer, Elico digital pH meter, Ranganna (1986), by titration with