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RESEARCH PAPER

Sensory quality of probiotic shrikhand using yoghurt culture

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SUMMARY : Shrikhand from buffalo milk using dahi culture (T_0) and yoghurt culture (T_1) was prepared and studied for it' acceptability. It was observed that shrikhand prepared using yoghurt culture was comparable or equally good to shrikhand prepared using dahi culture. Cost of production of shrikhand prepared from dahi culture (T_0) was Rs 55.14 per kg and for shrikhand prepared using yoghourt culture was Rs 55.52 per kg. This indicated that good quality shrikhand can be prepared using yoghurt culture. The main advantage of yoghurt shrikhand is that it contains viable cells of yoghourt bacteria which provides therapeutic benefit to the consumer.

KEY **W**ORDS : Shrikhand, Yoghurt, Dahi, Probiotic, Therapautic

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Fermented milk and milk products occupy a place in satisfying nutritional requirements of human being since the time antiquity. Fermented milk products have been well recognized to have therapeutic, anticholeterolemic, anticarcigenic properties (Gardiner *et al.*, 2002.). Amongst the various fermented milk products, dahi a well known indigenous fermented milk products prepared by lactic acid fermentation is being converted in to shrikhand because of its better shelf-life.

Shrikhand is a semi soft, sweetish, sour, fermented, whole milk product. The curd (Dahi) is partially drained through a muslin cloth to remove the whey and thus, produce a solid mass called chakka(the basic ingredient for shrikhand).The chakka is mixed with required amount of sugar, nutmeg colour etc to yield shrikhand.

Shrikhand is served as special delicacy during festivals and ceremonial occasions. Consumption of shrikhand is reported to be effective in treatment of many diseases like diarrhea, acidity, gastro enteritis (Patel and Schauen, 1997).

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Probiotics have been therapeutically to modulate immunity, improve digestive process, prevent cancer, improve lactose intolerance, etc. (Makhal *et al.*, 2005). Lactic acid bacteria decreases serum cholesterol levels, increases vitamin B content in the product(Grill *et al.*, 2000).

Yoghurt is fermented milk product obtained by lactic acid fermentation by *Lactobacillus bulgaricus* and *Streptococcus thermophilus*. Yoghurt has been found nutritious over milk due to higher concentration, better digestibility and absorption of fat, lactose, protein and minerals (Danone,1996).Yoghurt is known to produce a microbial compound (Aim *et al.*, 1983 and Yaeshima, 1996)

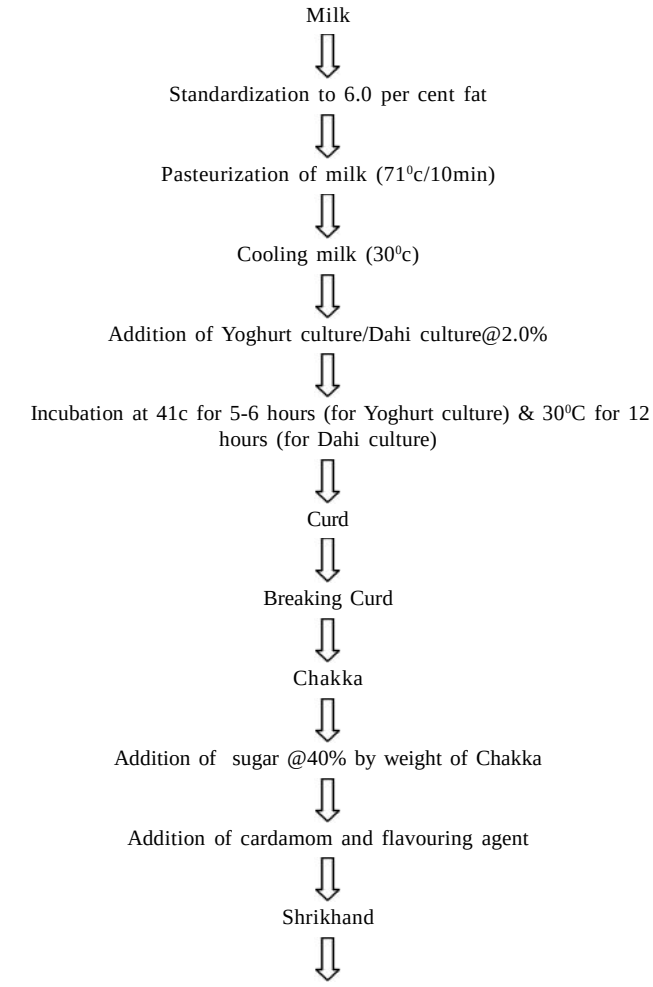
Looking to the diversified benefits of yoghurt culture shrikhand was prepared from buffalo milk using yoghurt culture.

EXPERIMENTAL METHODS

During the process of present investigation on preparation of probiotic shrikhand using yoghurt culture, the material and method adopted are delineated here under.

Buffalo milk :

Required for preparation of shrikhand was obtained from buffalo herd maintained at Dept.of Animal Husbandry and Dairy Science, College of Agriculture, Parbhani.



The sensory quality of product was evaluated by panel of judges using 9 point hedonic scale (Amerine *et al.*, 1965).

Fig. A : Preparation of shrikhand

Sterilized skimmed milk :

Sterilized skimmed milk prepared from buffalo milk .This was used for maintenance and propagation of culture. Milk in test tube and flask was sterilized in autoclave at 121°C (15psi) for 15min.

Bacterial culture :

Yoghurt culture *i.e. Lactobacillus bulgaricus* and *Streptococcus thermophilus* required for preparation of shrikhand was obtained from NDRI, Karnal. Dahi culture for preparation of control shrikhand was obtained from halwai shop of Parbhani market.

Treatment details :

T_0 Control-shrikhand prepared using dahi culture

T_1 Shrikhand prepared using yoghurt culture (*Streptococcus thermophilus* and *Lactobacillus bulgaricus*).

Shrikhand was prepared by following the standard procedure described by De (1980) with slight modification.

EXPERIMENTAL FINDINGS AND ANALYSIS

The sensory score of shrikhand has been given in Table 1. The mean colour and appearance score for shrikhand of treatment To was 8.08, while for treatment T_1 it was 8.18, this indicated that mean colour and appearance score of both shrikhand was more or less same. There were no significant differences for colour and appearance score within two treatments.

Mean body and texture score of shrikhand prepared from buffalo milk using dahi culture (T_0) was 8.31and from yoghourt culture (T_1)was 8.50. This indicated that shrikhand of treatment To was little inferior in body and texture score compared shrikhand to treatment T_1. This may attributed due to culture differences for body and texture score within two treatments.

Mean flavour scores for shrikhand prepared using dahi culture (T_0) be was 8.71 and for yoghurt culture(T_1) was 8.24. This may be attributed due to use of different cultures in preparation of shrikhand. There were significant differences for flavour scores within two treatments.

The mean taste score for shrikhand prepared using dahi culture (T_0) was 8.60 and using yoghurt culture (T_1) was 8.11. Shrikhand prepared using dahi culture (T_0) had maximum taste score of 8.60. This may be attributed due to differences in acidity and moisture content of shrikhand.

Overall acceptability score of shrikhand prepared using dahi culture(T_0) was 8.42 and for shrikhand prepared using yoghurt culture (T_1) was 8.24. It was revealed that there were little differences amongst the two treatments for overall acceptability of shrikhand.

Shrikhand prepared using dahi culture had higher flavour score compared with shrikhand prepared using yoghurt culture.

Cost of production :

Cost of production of shrikhand is presented in Table 2. Quantity of ingredients required for preparing one kg shrikhand was calculated on the basis of market price. The cost of production one kg shrikhand from dahi culture was Rs.55.14 and for shrikhand using yoghurt culture was Rs.55.52.

Table 1 : Overall acceptability of shrikhand

Treatment	Colour and appearance	Body and texture	Flavour	Taste	Overall acceptability
T_0	8.08	8.31	8.71	8.60	8.42
T_1	8.18	8.50	8.24	8.11	8.25

Table 2: Cost of production of shrikhand

Sr No	Particulars	Rate(Rs.)	T_0		T_1	
			Qty	Amount(Rs)	Qty.	Amount(Rs.)
1.	Milk	16/Kg	2000g	32.00	2000g	32.00
2.	Sugar@40%byweightof Chakka	20/Kg	297g	5.94	316g	6.32
3.	Cardamom	1100/kg	2g	2.20	2g	2.20
4.	Labour	_	_	5.00		5.00
5.	Fuel	_	_	3.00		3.00
6.	Colour and flavour	17/20ml	5ml	5.00	5ml	5.00
7.	Miscellaneous	_	_	2.00	_	2.00
	Cost/kg	_	_	55.14	_	55.52

LITERATURE CITED

Aim, A.,Kjellen, E.R., Setterberg and biomquest, L.(1983). Effect of new fermented milk products for lactose intolerant indivisuals. *J.Dairy Sci.*, **63**: 346-349.

Amerine, M.A., Paugbern, R.M. and Roesster, E.B. (1965). *Principles of sensory evaluation of food*. Academic press, NEW YORK, U.S.A.

Danone, D. (1996). Nutritional and health benefit yoghourt.World Newsletter, **1**:1.

De, S. (1980).*Outlines of dairy technology*.Oxferd university press, NEW DELHI, INDIA.

Gardiner, G.E., Ross, R.P., Kelly, P.M., Stanton, C., Collins, J.K. and Ftizogerlad, G.(2002). *Microbiology of therapeutic milk. Dairy microbiology hand Book*, John Wiley and Sons Inc. Publication, pp. 431-478.

Grill, J.P., Cayaela, C., Antonic, J.M. and Schneider, F. (2000). Effect of *Lactobacillus amylovorous* and *Bifiobacterium bravae* on cholesterol. *Lett.Appl. Microbiol.*,**81**:154-156.

Makhal, S., Mandal, S. and Kanaawjia, S.K. (2005). Probiotics in management of atherosclerotic cardio-vascular diseases. *Indian J. Dairy Sci.*,**58**(3):147-161.

Patel, R.S. and Schauen, A.R.(1997). Lactic acid bacterial, yoghurt and health benefits. *Indian Dairyman*,**49**(9):9-13.

Yaeshima, T. (1996). Benifits of Bifidobacteria to human health. Bulletin of international Dairy federation.

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