

RESEARCH PAPER

Evaluation of chemical, microbial and organoleptic quality of papaya *Shrikhand*

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Accepted : April, 2010

ABSTRACT

Three levels of papaya pulp viz., 10, 20, 30 per cent by weight of *Chakka* and one level of sugar 35 per cent by weight of *Chakka* were used and one control sample without papaya pulp and 35 per cent sugar was also prepared for comparison. It was observed that the mean score for overall acceptability for treatment T₀, T₁, T₂ and T₃ was 7.32, 7.18, 7.32 and 7.50 per cent, respectively. Maximum overall acceptability score 7.50 per cent was observed for treatment T₃ and minimum for treatment T₂ (7.18 per cent). These observations indicated that the proportion of papaya pulp in blend increased the overall acceptability. The moisture, fat, protein, total solid, lactose, total sugar, pH, acidity and ash contents of *Shrikhand* were determined. Control sample (T₀) indicated higher microbial load than treated samples. Yeast and mould count (YMC) of papaya *Shrikhand* ranged from 11.25 x 10² cfu/g to 16.25 x 10² cfu/g. Control sample contain 2.5 x 10⁶ cfu/g and it was having decreasing trend in T₁, T₂ and T₃ samples for lactobacilli count.

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Key words : Milk, Chakka, *Shrikhand*, Papaya

Shrikhand in Sanskrit means Sandal. Yet, this word was originated from Sanskrit word 'Shrikharini' as mentioned in "Bhavaprakash", the old classic. It defines as a curd preparation with the addition of sugar and flavouring ingredients like saffron and dried fruits. With the arrival of time, the word 'Shrikharini' was derived from 'Shrikharani' subsequently the derivation of the 'Shrikhan' and '*Shrikhand*' (Kadam, 1981). *Shrikhand* is a semi-soft, sweetish-sour, whole milk product prepared from lactic fermented curd. The curd is partially strained through a cloth to remove the whey and thus produce a solid mass i.e. '*Chakka*', which is pedestal for '*Shrikhand*' preparation. Since, last 13 years India ranks first in milk production in world. However, near about 7 per cent milk is used for manufacturing of fermented milk products like *Dahi*, *Shrikhand*, *Lassi*, yogurt etc. In that *Shrikhand* plays important role in production of value added products as compare to other fermented milk products.

The fruit of papaya is rich source of vit. A, C, minerals and fair amount of vit. B complex. In addition, it also contains rich source of sugar, carbohydrate, proteins and also their exotic colour and flavour. Papaya can be processed into variety of the products such as jam, jellies, papaya candy, canned papaya, cocktails, nectors, papaya puree, papaya cereal flakes and powder can also be made from papaya (Pal *et al.*, 1980). Utilization of fermented food exhibits a pronounced influence on human health. For the reason that of nutritive value of *Shrikhand* and

therapeutic and nutritive value of papaya fruit, it was planned to prepare *Shrikhand* using papaya pulp.

MATERIALS AND METHODS

The fresh composite milk sample from crossbred cow was used for preparation of *Shrikhand*. Culture of LF-40 (*Lactic fermenti*) procured from the Division of Dairy Microbiology, NDRI, Karnal. This was used to prepare *Shrikhand*, for all trials. The fresh ripened papaya fruits (Taiwan variety) and crystalline cane sugar was purchased from local market during investigation.

Technology of *Shrikhand* preparation:

Shrikhand was prepared adopting the standard procedure described by De (2008) with slight modification.

Preliminary trials:

Initially preliminary trials were conducted with 7 levels of papaya pulp viz., 0, 5, 10, 15, 20, 25, 30 and 35 per cent using 35 per cent sugar by weight of *Chakka*. It was observed that 5 per cent level of papaya pulp did not give noticeable change in taste and flavour. The higher levels viz., 35 per cent gave much pronounced papaya taste and flavour and the weak body and texture due to higher moisture content. So, these levels viz., 5, 15, 25 and 35 per cent papaya pulp were rejected. Sugar level was fixed as 35 per cent by weight of *Chakka* in all the treatments. Culture used for *Shrikhand* preparation was LF-40 which is a mild acid producer that is why though the sugar