

# Preparation of Paneer from Buffalo Milk Blended with Soymilk

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**Abstract**—Paneer is heat-cum-acid coagulation of casein component of milk. Paneer is used as base material for the preparation of a large number of culinary dishes and it is a popular food product at the household. In the present study, buffalo milk is standardized on the level of fat (6 percent milk fat, 9 percent SNF) using different coagulants, was used in manufacturing of Paneer. The paneer was prepared from buffalo milk with addition of soy milk in the proportion of 75:25. Soymilk with 25 per cent level was used as blending with buffalo milk for preparation of paneer significantly affect the fat, lactose, total solids and yields of paneer. Organoleptic test was checked to know changes occurred in freshly paneer During 10 days storage at room temperature (28-30°C) and refrigerated temperature (5±2°C) In case of storage at room temperature (28±2°C) and refrigeration temperature (5±2°C), there was no significant changes in physical and chemical constituents in Paneer upto 2 days and 6 days respectively.

**Keywords:** Soymilk, paneer, buffalo milk

## 1. INTRODUCTION

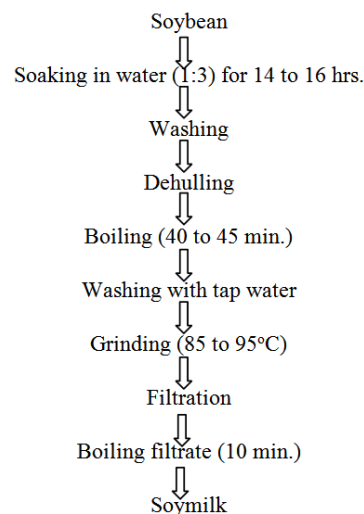
Paneer is the important nutritious and whole some indigenous, dairy products, which occupy a prominent place among traditional milk products and carry lot of market potential. These products are of high quality proteins, fat, minerals and vitamins. Paneer is a heat and acid coagulated traditional milk product, mainly consisting of milk solids obtained from the coagulation of hot milk with permitted organic acid and subsequent drainage of whey followed by pressing. It is estimated that about 5% of the total milk produced in India is converted into paneer, which accounts for about 3, 00,000 tones of paneer annually valued at rupees 1050 crores. According to Prevention of Food Adulteration Act (PFA), paneer should contain no more than 70% moisture and its fat content should not be less than 50 percent Paneer is recommended for diabetic patients; dental carries, growing children and pregnant women due to high calcium and protein. However, short shelf life is one of the most serious problems faced in marketing and distribution of paneer to the restaurants and fast food centers, which consume a huge quantity of this product as a base material for culinary dishes. Paneer has a

good market value, but it is not able to find its rightful place in Indian market due to its short life of about a week under refrigeration and one day at room temperature. Paneer contains approximately 53%-55% moisture, 23%-25% fat, 17%-18% proteins, 2%-2.5% lactose, and 1.5%-2.0% minerals (Kanawjia & Singh, 1996). It retains about 90% fat & proteins, 50% minerals & 10% lactose of original milk (Rao et al, 1992 a).

## 2. MATERIALS AND METHODS

**Standardization of milk:** The buffalo milk was standardized to 6.0 per cent fat and 9.0% MSNF.

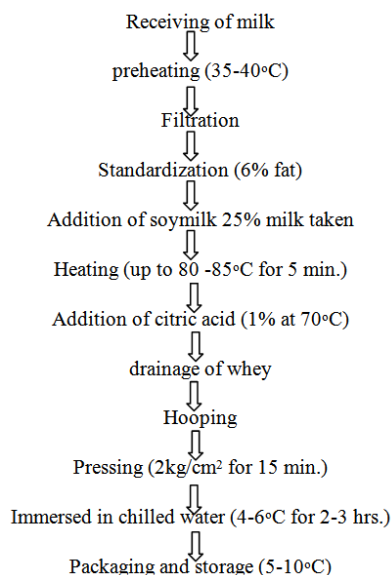
**Preparation of paneer:** The paneer was made as suggested by and subsequently modified by Sachdeva (1983). The standardized buffalo milk was heated to 100°C for 5 minutes and then cooled to 80°C. **Flow diagram 1:** Preparation of soymilk



The paneer was prepared from buffalo milk with addition of soy milk in the proportion of 75:25. Citric acid (1%) was added to milk at 80°C. The curd was left for 5-10 minutes in

the whey without agitation. The whey was then drained through muslin cloth and the coagulated mass was pressed in a hoof by applying presence of 2 kg/cm<sup>2</sup>. It was then dipped in chilled water for 2 hour and packaged in butter paper packs and stored at room temperature (28-30°C) and refrigerated temperature (5±2°C).

### Flow diagram 2: Preparation of soypaneer



Sensory quality will be evaluated as per procedure prescribed by Pal and Gupta (1985). Paneer will be evaluated by the panel of judges separately for flavor (45), body and texture (35), colour and appearance (20), that means by 100 point evaluation score.

### 3. RESULTS AND DISCUSSION

It is seen from Table, 1 that the blending of soymilk with buffalo milk adversely affected all the parameters of sensory qualities. There was decrease in score of all the parameters of physical qualities, i.e. color and appearance, body and texture, flavor and taste with increase in storage days at different storage temperature. The mean flavor score of paneer were recorded as 34.66 and 36.25 under room temperature (28+2°C) and refrigerated temperature (5+2°C), respectively. The mean body and texture, color and appearance, overall acceptability score 26.08 and 27.79, 12.62 and 15.33, 73.41 and 79.33 under room temperature (28+2°C) and refrigerated temperature (5+2°C), respectively. The result revealed that after 2 and 6 days of storage the paneer stored at room and refrigerated temperature was found that the overall acceptability score of paneer, was found to be decreased with increased in storage period.

The results obtained are in agreement with Singh *et al.* (2010). They observed that the score for flavor, colour and appearance, body and texture and overall acceptability declined as the period of storage elapsed.

**Table 1: Effect of storage interval and storage temperature on Sensory score of Paneer .**

Storage days	Flavor		Colour and appearance		Body and texture		Overall acceptability	
	Rmt	Rft	Rmt	Rft	Rft	Rft	Rft	Rft
0	41.25	18.25	31.75	91.25	91.25	31.75	18.25	41.25
2	39.00	16.00	29.50	84.50	87.50	30.50	17.25	40.00
4	36.00	14.25	27.00	77.25	84.00	29.25	16.50	38.25
6	33.25	11.50	25.25	70.00	78.50	27.50	15.50	35.50
8	30.75	8.75	22.50	62.25	70.75	24.75	13.50	32.50
10	27.75	7.00	20.50	55.25	64.00	23.00	11.00	30.00
Individual effect mean	34.66	12.62	26.08	73.41	79.33	27.79	15.33	36.25
Interaction effect (days x Temp.)								
SE	0.59		0.56		0.92		1.64	
CD	-		-		-		-	

\*Rmt – Room temperature \* Rft – Refrigerated temperature

### 4. CONCLUSION

From the results recorded in this study it can be concluded that shelf life paneer prepared from blending soymilk with buffalo milk at room temperature (28+2°C) was only 24 hours and spoiled after 48 hours of storage. Paneer could be stored for 6 days at refrigeration temperature (5+2°C) without much deterioration in the quality but the freshness of the product was lost after 3 to 4 days of storage.

### 5. ACKNOWLEDGEMENT

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