

Effect of Blending Soymilk on Sensory Quality of Paneer

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Objective

- 1) To observe the effect of blending of buffalo milk with soymilk on flavour of paneer.
- 2) To observe the effect of blending of buffalo milk with soymilk on body and texture of paneer.
- 3) To observe the colour and appearance of blending of buffalo milk with soymilk.
- 4) To find out Overall accept ability of paneer

Methodology

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

Characters	Perfect score	Code No. of samples				
		1	2	3	4	5
Flavour	45					
Body and texture	35					
Colour and appearance	20					
Total	100					

The coefficient of concordance will be worked out to study the significance of judgment.

Result and Discussion

Data in respect of sensory evaluation of paneer prepared from buffalo milk and blends of buffalo milk with soymilk are presented in following tables.

Table1. Shows that, the effect of blending of buffalo milk with soymilk on flavour of paneer. The average flavor score was 40.74 for paneer prepared from buffalo milk (T_1), whereas 39.78, 39.56, 37.20 and 36.78 score for T_2 , T_3 , T_4 and T_5 respectively. Flavor score for buffalo milk paneer in treatment T_1 and T_2 was significantly ($*P < 0.05$) superior over T_3 , T_4 and T_5 treatments, respectively.



Table 1. Flavour score of paneer prepared from buffalo milk blended with soymilk (45 point)

Treatment	Proportion (BM:SM)	Scores and Number of Replication					Mean
		I	II	III	IV	V	
T ₁	100:00	39.50	40.00	41.20	41.00	42.00	40.74*
T ₂	75:25	40.00	40.20	39.00	39.70	40.00	39.78*
T ₃	50:50	38.70	40.0	39.80	39.00	40.30	39.56
T ₄	25:75	37.50	38.00	39.00	38.50	37.00	37.60
T ₅	00:100	36.20	36.90	37.30	36.50	37.00	36.78
'F' test							Sig.
SE (m)							0.33
CD at 5%							0.99

(BM- Buffalo milk, SM- Soymilk, *P < 0.05)

From the data it was observed that there was no significant difference in flavour between T₁ and T₂. Whereas, T₁ and T₂, T₂ and T₃, T₃ and T₄ and T₄ and T₅ at par with each other.

Above result in agreement with the results showed by Rajor (1990) indicating that proportion of soymilk increase there was decrease in flavour score of yoghurt.

Body and texture of paneer

Table 2. Body and texture of paneer prepared from buffalo milk blended with soymilk (35 point)

Treatment	Proportion (BM:SM)	Scores and Number of Replication					Mean
		I	II	III	IV	V	
T ₁	100:00	33.40	32.50	33.10	33.20	32.70	32.98*
T ₂	75:25	31.50	32.70	32.60	31.80	33.00	32.32*
T ₃	50:50	29.50	30.00	29.00	29.80	30.20	29.70
T ₄	25:75	28.50	30.10	29.90	28.70	29.30	29.30
T ₅	00:100	28.30	28.50	27.90	27.70	28.00	28.08
'F' test							Sig.
SE (m)							0.25
CD at 5%							0.76

(BM- Buffalo milk, SM- Soymilk, *P < 0.05)

It was observed from Table 3. that, average body and texture score for buffalo milk paneer (T₁) was 32.98, whereas 32.32, 29.70, 29.30 and 28.08 score for T₂, T₃, T₄ and T₅, respectively.

The body and texture of paneer in treatment T₁ and T₂ was superior over T₃, T₄ and T₅. There was significant reduction in body and texture score of paneer in treatment T₂, T₃, T₄ and T₅. Whereas, difference between T₁ and T₂ and T₃ and T₄ was at par with each other. It shows that blending of buffalo milk with soymilk



in treatment T₂ to T₅, reduce the score. Body and texture of paneer depends upon total solid content in the milk. This may be due to less total solid and more moisture content in soymilk than buffalo milk.

The result were in agreement with, Ranganatham and Gupta (1987) who reported that, weak body may be due low solid content in milk which was used for preparation of yoghurt.

Colour and appearance of paneer

Observation regarding colour and appearance of blending of buffalo milk with soymilk are presented in Table 3.

It was observed from Table 3. that, average score for colour and appearance of buffalo milk paneer (T₁) was 19.46 and for treatments T₂, T₃, T₄ and T₅ was 18.70, 17.28, 16.47 and 15.81, respectively. Highest colour and appearance score was obtaining in Treatment T₁ while, lowest in Treatment T₅.

Table 3. Colour and appearance of paneer prepared from buffalo milk blended with soymilk (20 point)

Treatment	Proportion (BM:SM)	Scores and Number of Replication					Mean
		I	II	III	IV	V	
T ₁	100:00	20.00	19.70	19.00	19.50	19.10	19.46*
T ₂	75:25	18.00	19.30	18.70	18.40	19.10	18.70
T ₃	50:50	17.50	17.70	17.20	16.90	17.10	17.28
T ₄	25:75	16.00	16.20	17.00	16.35	16.80	16.47
T ₅	00:100	16.20	16.00	15.30	15.70	15.85	15.81
'F' test							Sig.
SE (m)							0.18
CD at 5%							0.56

(BM- Buffalo milk, SM- Soymilk, *P < 0.05)

The result indicated that significant ($p < 0.05$) effect of proportion of soymilk with buffalo milk on colour and appearance of paneer. The buffalo milk paneer (T₁) was significantly superior over the blends of buffalo milk and soymilk paneer but not with T₂. Treatment T₄ and T₅ was at par with each other except T₂ and T₃.

Overall acceptability of paneer

The result obtained from effect of blending buffalo milk with soymilk for preparation of paneer on overall acceptability is presented in Table 4.

Data presented in Table 4, indicated that highest overall acceptability score (93.18) was obtained for buffalo milk paneer T₁ while, 90.80, 86.54, 83.37 and 80.67 average overall acceptability score was obtained for the paneer prepared from buffalo milk blended with soymilk in treatments T₂, T₃, T₄ and T₅ respectively. Treatment T₁ showed highest overall acceptability score while treatment T₅ showed lowest score. The result indicated significant ($P < 0.05$) effect of proportion of blending soymilk with cow milk on overall acceptability of paneer. Buffalo milk paneer was significantly superior in respect of overall acceptability score over blends on buffalo milk with soymilk used for preparation of paneer in treatments T₂, T₃, T₄ and T₅. However, T₂ and T₁, T₄ and T₅ was at par with each other. However the panel of judges also accepted treatment T₂ on the basis of addition of soymilk.



Table 4. Overall acceptability of paneer prepared from buffalo milk blended with soymilk (100 point)

Treatment	Proportion (BM:SM)	Scores and Number of Replication					Mean
		I	II	III	IV	V	
T ₁	100:00	92.90	92.20	93.30	93.70	93.80	93.18*
T ₂	75;25	89.50	92.20	90.30	89.90	92.10	90.80
T ₃	50:50	85.70	87.70	85.20	86.50	87.60	86.54
T ₄	25:75	82.00	84.30	85.90	81.55	83.10	83.37
T ₅	00:100	80.70	81.40	80.50	79.90	80.85	80.67
'F' test							Sig.
SE (m)							0.47
CD at 5%							1.43

(BM- Buffalo milk, SM- Soymilk, *P < 0.05)

As overall acceptability depends upon the score at flavour, body and texture, colour and appearance, all these attributes decreases in treatments T₂, T₃, T₄ and T₅.i.e. 25 to 100 per cent addition of soymilk in buffalo milk used for preparation of paneer. These parameter in agreement with past references.

Changade and Tambat (1992) studied that acceptability of curd from blending of buffalo milk with soymilk,they observed that addition of soymilk in buffalo milk reduced the acceptability of curd. They further noted that acceptability score was reduced proportionately with increase in proportion of soymilk.

The sample were graded on the basis of total score obtained as detailed below.

Score	Grade
91-100	Excellent
89-91	Good
71-89	Fair

Conclusion

For high acceptability sensory evaluation must be carried out which helps us for increasing the quality of product and also indirectly increased profit.

