Study the Quality Parameters of Sandesh Prepared from the Milk with Different Level of Fat Percentage

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ABSTRACT

A study was conducted on preparation of sandesh, containing different fat ratios of milk. Three ratios 3%, 3.5%, and 4% & 4.5% containing same level of solid not fat (SNF%) taken and coded as T1, T2, T3, & T4 respectively freshly made chhana and mixed with cane-sugar sweeteners heated on a slow fire only for 10 mins. Poured it into a tray and left it to cool and set. Thus experimental sandesh was ready. Experimental sandesh (T4) having 20% levels of high nutrients were most acceptable, followed by T3, T2, T1. The product was analyzed for organoleptic attributes like flavor & taste, body & texture, colour & appearance and overall acceptability by trained panelist using 9 point hedonic scale. Physic-chemical (moisture, fat, protein, carbohydrate, ash) and analysis were done for estimating its nutritional content. Based on the statistical analysis of experimental data from various parameters using different levels were found to be superior to experimental sandesh (T4). As far as organoleptic attributes are concerned among the treatment the highest score was reported for T4 followed by T3, T2 & T1. Thus as per the acceptability of the product judged by organoleptic evaluation, the treatment can be rated as T4 > T3 > T2 > T1.

Key words: Milk product, Sandesh, Chhana and fat percentages.

INTRODUCTION

Sandesh is a very popular heat-dedesiccated product of coagulated milk protein mass called chhana (a heat- and acid-coagulated product of milk that is analogous to cottage cheese) of
West Bengal, India. Sen and Rajorhia (1990). Milk chhana is usually preferred for sandesh preparation as it produces soft body and smooth texture. In contrast, milk chhana produces undesirable hard body and coarse texture, probably due to the high protein (casein) and calcium content. At present rassogolla and sandesh are prepared and marketed in small scale by the sweet makers. Calcutta is famous for rassogolla and sandesh products (Sen and Rajorhia 1989). Sandesh is known for its taste, palatability, and aroma and as a rich source of milk proteins, fat, sucrose, and fat-soluble vitamins. Sandesh is a popular sweet all over India, particularly in the eastern part of India. It has the tremendous market potential and a household name in Bengal.

MATERIAL AND METHODS

The present investigation was laid out in the CRD with 4 treatments and 5 replications in the laboratory in Department of Dairy technology, Sam Higginbottom Institute of Agriculture, Technology and Sciences, Allahabad during the year 2011-2012.

Total no. of treatments were eight viz. \( T_1 \) Sandesh prepared from chhana obtained from milk having 3%fat & 8.5 %SNF , \( T_2 \) Sandesh prepared from chhana obtained from milk having 3.5%fat &8.5 %SNF , \( T_3 \) Sandesh prepared from chhana obtained from milk having 4%fat &8.5 %SNF , \( T_4 \) Sandesh prepared from chhana obtained from milk having 4.5%fat & 8.5 %SNF.

Material used for Sandesh preparation:

1. Milk , 2. Cream , 3. Cane sugar , 4. Citric acid

Flow diagram adopted for manufacturing experimental sandesh:

Plan of work

\[
\text{Milk} \quad \downarrow \quad \text{Standardization} \quad \downarrow
\]
Result and Discussion

There was significant difference in moisture content of different treatment combinations. Maximum moisture 36.02 of was recorded in T₄ followed by T₃ (35.68), T₂ (35.16) and T₁ (34.16).

There was significant difference in fat content of different combinations. Maximum fat of 21.44 was found in the T₄ followed by T₃ (20.16), T₂ (18.44) and T₁ (17.49).
There was significant difference in protein content of different combinations. Maximum protein of 18.08 was found in the T₄ followed by T₃ (17.36), T₂ (17.3) and T₁ (16.86).

There was significant difference in ash content of different combinations. Maximum ash of 2.164 recorded in the T₄ followed by T₃ (2.124), T₂ (2.062) and T₁ (2.082).

There was significant difference in carbohydrate content of different combinations. Maximum carbohydrate of 29.33 was found in the T₁ followed by T₂ (27.04), T₃ (24.67) and T₄ (22.26).

The highest mean score for colour and Appearance recorded in the experimental sandesh sample of T₄ (7.84), T₃ (7.80), T₂ (7.84), and T₁ (7.60). There was non-significant difference experimental sandesh.

The highest mean score for Flavour and taste recorded in the experimental sandesh sample of T₁ (7.92), T₂ (7.44), T₃ (7.76), and T₄ (7.52). There was significant difference experimental sandesh.

The highest mean score for Body and texture recorded in the experimental sandesh sample of T₄ (7.76), T₃ (7.80), T₂ (7.76), and T₁ (7.68). There was non-significant difference experimental sandesh.

The highest mean score for overall acceptability recorded in the experimental sandesh sample of T₁ (7.76), T₂ (7.59), T₃ (7.77), and T₄ (7.59). There was non-significant experimental sandesh.

The data regarding yield (in kg) of experimental sandesh, from the perusal of data of yield (kg) in experimental sandesh samples of different treatments furnished in table 4.5, it was noted the highest mean yield (kg) was recorded in the experimental sandesh sample of T₄ (188) followed by T₃ (177), T₂ (165), and T₁ (150).
CONCLUSION

The results obtained from the present investigation revealed that the used milk with different levels of fat percentage be satisfactory used to prepare sandesh. Though the significant difference was found in experimental T_4 was found to be satisfactory quality. Experimental T_4 showed highest fat, protein, ash yield percentage compared to treatments T_3, T_2 and T_1 respectively which gives relatively cheaper and nutritious product for people.

REFERENCES


“Preparation of Sandesh from milk with different levels of fat percentage”.

The data collected on different aspects were tabulated & analyzed statistically

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<th>Parameters</th>
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<td>T_2</td>
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<td>I. Chemical Analysis</td>
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<td>Moisture</td>
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### Carbohydrate

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### 2. Organoleptic Analysis

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<th>Colour and Appearance</th>
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<td>Overall Acceptability</td>
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