

Effect of Elephant Foot Yam Pulp on Sensory and Chemical Properties of Burfi

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Abstract: Burfi is a popular khoa based confection and its contains considerable amount of milk solids. The manufacture of value added products by using vegetable like elephant foot yam. The present investigation shows that, the overall acceptability of the elephant foot yam pulp burfi prepared with 10 percent elephant foot yam pulp in treatment T₂ (23.65)was highest and superior. Treatment T₂ was more acceptable than all treatments in concerns with colour & appearance, body & texture, flavour, sweetness and overall acceptability. The chemical composition of burfi was affected due to addition of elephant foot yam pulp to the moisture, fat, protein and ash.

Keyword: Burfi, Buffalo milk, Khoa, Elephant foot yam, Chemical and Sensory parameters .

I. Introduction

Milk is the traditional diet has varied greatly in different region of the world. Milk is regarded as a complete food in a human diet. Milk is provided all the nutrient essential for the nourishment of the human body. Milk is consume as a whole or by converting it into various milk products like concentrated milk product, coagulated, fermented, fat rich and frozen milk product. Milk sweets have been an inseparable part of the socio-cultural life in the Indian sub-continent. The reflect wealth and status of the people. In India khoa is widely as a base material for the preparation of variety of popular indigenous sweets. It contains fairly large quantities of muscle building protein, bone farming minerals and energy giving fat and lactose.

Burfi has been flavoured as one of the most popular khoa based sweet all over India. The unique adaptability of khoa based sweet all over India. The unique adaptability of khoa in terms of its flavour, body and texture to blend with a wide range of food adjust had permitted development of an impressive array of burfi varieties. In India for all the classes of people the vegetables like bottle gourd, red pumpkin, elephant foot yam etc are popular and regular consumed vegetable. The elephant foot yam reduces the cholesterol percentage and blood pressure in the blood. It also used for treatment of cancer, weight loss, diarrhea and abdominal pain and gas. It is powerful antioxidant helping to slow the ageing process and prevent cardiovascular disease and stroke.

Now a days local producers are using only fruits in preparation of burfi nothing use the vegetables. Therefore present study the vegetables like elephant foot yam pulp used for the preparation of burfi. The product may have longer keeping quality due to high total solids.

II. Materials And Methods

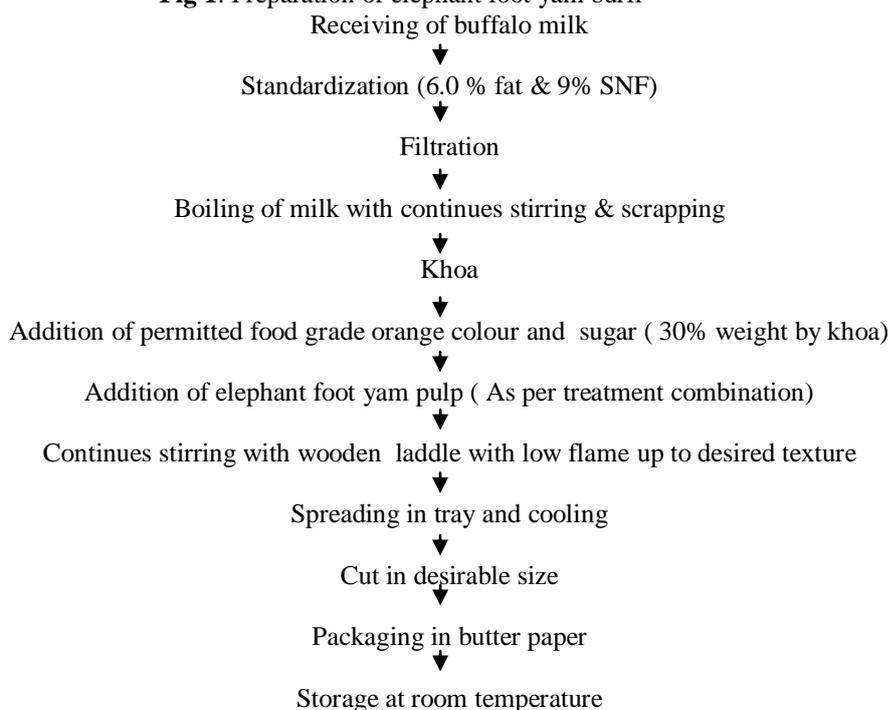
2.1 Preparation of elephant foot yam pulp

Elephant foot yam vegetable purchased from local market were washed with clean water. The skin was removed. Vegetable was cut in pieces/ slices with the help of knife and boil it pots. After smoothens of cutted pieces remove the water finally converted into homogenous pulp by using Deluzx pulp machine.

2.2 Preparation of burfi

The procedure given by De (1980) was used with slight modification. The buffalo milk was concentrated to a pasty consistency by evaporating in open pan of gentle fire. The sugar at the rate 30 per cent was added and heated gentle till pot formation. When the product started to leave the sides of karahi within 5 to 8 min and small amount of food grazed orange colour in the sample. The elephant foot yam pulp was added and further heated on low flame till the product gain started to leave the sides of karahi. The product was taken off the flame and transferred into greasy tray and was allowed to cool and cut into desirable size.

Fig 1: Preparation of elephant foot yam burfi



2.3 Treatment details

T₁- 0 parts of elephant foot yam pulp + 100 parts of Khoa by weight

T₂- 10 parts of elephant foot yam pulp + 90 parts of Khoa by weight

T₃- 15 parts of elephant foot yam pulp +85 parts of Khoa by weight

T₄- 20 parts of elephant foot yam pulp + 80 parts of Khoa by weight

The different levels were tried and compare with control (T₁)

2.4 Chemical analysis

Moisture content of pedha was determined by standard procedure described in Anonymous (1959). Fat content of pedha by method described in ISI : 1224 (Part II) 1977. Protein by microkjeldhal method as described in ISI (1981) , Ash by ISI: (1981) and total solid by formula method.

2.5 Sensory evaluation

Sensory analysis carried out by panel of Judges in respect of color and appearance, Flavour body & texture. Sweetness and overall acceptability by 9 hedonic scale developed by Quarter master Food and Container Institute USA (Gupta 1976)

2.5 Statistical method

The data were analyzed statistically by using the completely randomized block design as per method described by Panse and Sukhatme (1967). The significance was evaluated on the basis of critical difference.

III. Results And Discussion

3.1 Chemical composition

The chemical quality of finished product is presented in Table 1. The moisture content in the finished product of different treatment combinations were in the range of 16.85 to 30.47 per cent. The increasing moisture content was noted in the finished product, due to addition of varied proportion of elephant foot yam pulp in khoa. The fat content of elephant foot yam burfi in all combination was different. Which decreased from 21.95 (T₁) to 17.61 (T₃). This might be due to decreasing levels of khoa. The results obtained in the finished products were similar to those reported by Waghmare (2012). Similarly protein, carbohydrate and ash content in the finished product decreased.

3.2 Sensory evaluation

The sensory scores given for various samples are presented in Table 2. Pedha samples in which 10 per cent elephant foot yam pulp was blended with khoa scored the highest score (8.87). It was observed that increasing proportion of elephant foot yam pulp in the blended in the khoa decreased the score of colour and appearance of burfi. The score in respect of body and texture ranged between 8.0 to 9.0 for T₁ and T₃ treatment combinations. The treatment T₂ was significantly superior over the rest of treatments. In case of flavour, the score recorded was highest in T₃. In case of sweetness the mean score ranged from 8.0 to 8.5. It was lowest in T₁ and highest in T₃.

Table 1. Chemical composition of elephant foot yam burfi (per cent)

Treatments	Moisture	Fat	Protein	Total solid	Ash
T ₁	16.85	21.95	14.91	83.53	3.02
T ₂	23.65	19.78	13.54	76.35	3.26
T ₃	27.06	18.69	12.68	72.94	3.38
T ₄	30.47	17.61	12.18	69.53	3.51
SE ±	0.019	0.044	0.011	0.014	0.013
CD at 5%	0.060	0.146	0.034	0.045	0.045

Table 2. Overall acceptability score of elephant foot yam burfi

Treatments	Colour & appearance	Flavour	Body & texture	Sweetness	Overall acceptability
T ₁	8.0	8.0	8.0	8.0	8.0
T ₂	9.0	9.0	9.0	8.5	8.87
T ₃	9.0	9.0	8.0	8.5	8.62
T ₄	8.0	8.5	8.0	8.0	8.12
SE ±	0.154	0.118	0.123	0.138	0.148
CD at 5%	0.460	0.372	0.378	0.413	0.442

IV. Conclusion

It may be concluded that the superior, nutritional and medicinal quality elephant foot yam burfi can be prepared by addition of 10 parts of elephant foot yam pulp and 90 parts of khoa by weight basis with addition of 30 per cent sugar.

References

- [1]. Anonymous, Laboratory manual. Methods of analysis of moisture in milk and milk products. Milk Industry foundation, Washington,1959.
- [2]. De, S., Prepration of Burfi. 1stEdn. Published by Oxfard Publication,New Delhi,1980: 342.
- [3]. Waghmare.V.K, Utilization of Bottle Gourd Pulp in Prepration of Burfi, Mastoral diss MKV, Parbhani, 2012.
- [4]. Gupta,S.K, Sensory evaluation in food industry. Indian Dairyman, **28 (8)**: 1976, 293- 295.
- [5]. IS:1224,.,Determination of fat by Gerber’s method (part-II) Indian Standard Institutuion, Manak Bhavan, New Delhi,1977.
- [6]. ISI .Hand book of food analysis. Dairy Product. XI Indian Standard Institution., Manak Bhavan, New Delhi,1981.
- [7]. Panse, V.G. and Sukhatma, P.V .Statistical methods for agricultural workers. ICAR Publication, New Delhi, 1967.