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Studies on Prepration of Pedha Blended with Red Pumpkin

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Abstract: *An acceptable pedha was prepared using khoa from standardized buffalo milk added with 10 parts of red pumpkin pulp into 90 part khoa and sugar was mixed @ 30 % by weight of khoa before heating. The moisture range between 14.50 to 25.50, fat-22.00 to 20.00, protein-14.80 to 14.42, ash-2.32 to 2.19 and carbohydrate-46.06 to 38.88 per cent, respectively. On an average the red pumpkin pedha was found to be the overall acceptability score for T_1, T_2, T_3 and T_4 was 8.0, 8.25, 8.87 and 8.12, respectively. The cost of production of final product as 260, 251, 242 and 234 Rs / Kg for T_1, T_2, T_3 and T_4, respectively*
Keyword: *Pedha, Buffalo milk, Khoa, Red pumpkin, Chemical and Sensory parameters*

I. Introduction

India is emerging as a highest milk production producing country in the world with an annual growth rate of 4.53 %. The current milk production of India is 139.10 MMT (NDDB Statistics, 2013). Out of the total milk production in India 46 % of milk is consumed as whole and 54 % is utilized for conversion into different dairy products. It is estimated that about 7 % of total milk in India is converted into concentrated milk product among which pedha is one of the product.

Red pumpkin is low calorie vegetable i.e.100 gm fruit provides just 26 calories. It is rich in minerals like copper, calcium, potassium and phosphorus. It contains saturated fats therefore controlling weight reduction. It is used as cholesterol control. Red pumpkin is store house of vitamins such as vit A, C, E and rich source of B complex group. It is used for maintain integrity of skin and mucus membrane. Red pumpkin contains Zea-xanthin is natural anti-oxidant which has V rays filtering action in the maculated in retina of the eyes. Thus it helps to protect from age related macular disease in elderly.

The market demand for instant food and dairy products all over the world. The consumer seeing new taste with nutritional value with minimum cost. Hence taking into consideration in market demand were made to prepare the pedha blended with red pumpkin.

II. Materials And Methods

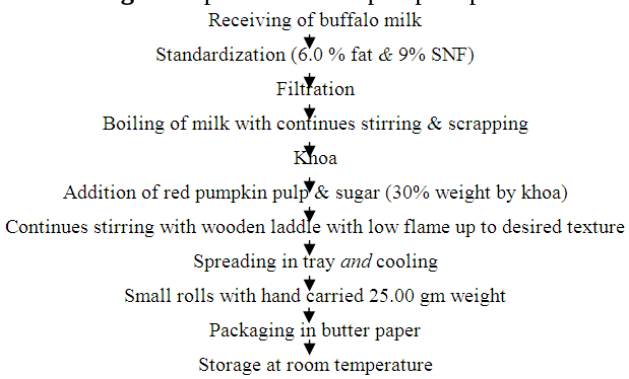
2.1 Preparation of red pumpkin pulp

Red pumpkin fruit purchased from local market were washed with clean water. The skin was removed. Fruit was cut in pieces/ slices with the help of knife, remove the seed, inert fibbers like thread and finally converted into homogenous pulp by using Deluzx pulp machine.

2.2 Preparation of pedha

The procedure given by Banerjee (1997) was followed. Buffalo milk was filtered through muslin cloth and standardized to 6 per cent fat. Milk was converted into khoa. The calculated amount of red pumpkin pulp and sugar @ 30 per cent of khoa were added. Finally the mixture was heated on a low fire with stirring till the desired texture was obtained. The small rolls is rolled with hands carried 25.0 gm weight.

Fig 1: Preparation of red pumpkin pedha



2.3 Treatment details

T_1- 0 parts of red pumpkin pulp + 100 parts of Khoa by weight
T_2- 5 parts of red pumpkin pulp + 95 parts of Khoa by weight
T_3- 10 parts of red pumpkin pulp + 90 parts of Khoa by weight
T_4- 15 parts of red pumpkin pulp + 85 parts of Khoa by weight
The different levels were tried and compare with control (T_1)

2.4 Chemical analyis

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 carbohydrate 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 14.67 to 25.06 per cent. The increasing moisture content was noted in the finished product, due to addition of varied proportion of red pumpkin pulp in khoa. The fat content of red pumpkin pedha in all combination was different. Which decreased from 22.15 (T_1) to 19.45 (T_3). This might be due to decreasing levels of khoa. The results obtained in the finished products were similar to those reported by Ghule (2012). Similarly protein, carbohydrate and ash content in the finished product decresed.

3.2 Sensory evaluation

The sensory scores given for various samples are presented in Table 2. Pedha samples in which 10 per cent red pumpkin pulp was blended with khoa scored the highest score (8.87). It was observed that increasing proportion of red pumpkin pulp in the blended in the khoa increased the score of colour and appearance of pedha. The score in respect of body and texture ranged between 8.0 to 9.0 for T_1 and T_3 treatment combinations. The treatment T_3 was significantly superior over the rest of treatments. In case of flavour, the score recorded was highest in T_3. In case of sweetness the mean score ranged from 8.0 to 8.5. It was lowest in T_1 and highest in T_3.

3.3 Cost of production

The cost of finished product (Table 3) was Rs.260 for control pedha whereas, for other treatment it increased in proportion to red pumpkin pulp added. The cost of pedha with 10 per cent red pumpkin was Rs. 19.00 per kg over control pedha.

Table 1. Chemical composition of red pumpkin pedha (per cent)

Treatments	Moisture	Fat	Protein	Carbohydrate	Ash
T_1	14.67	22.15	14.80	46.06	2.32
T_2	18.13	21.25	14.62	43.29	2.71
T_3	21.60	20.35	14.45	41.37	2.23
T_4	25.06	19.45	14.42	38.88	2.19
SE ±	0.021	0.050	0.011	0.016	0.016
CD at 5%	0.062	0.149	0.034	0.047	0.049

Table 2. Overall acceptability score of red pumpkin pedha

Treatments	Colour & appearance	Flavour	Body & texture	Sweetness	Overall acceptability
T_1	8.0	8.0	8.0	8.0	8.0
T_2	8.5	8.0	8.0	8.5	8.25
T_3	9.0	9.0	9.0	8.5	8.87
T_4	9.0	9.0	8.0	8.5	8.12
SE ±	0.151	0.121	0.121	0.134	0.144
CD at 5%	0.460	0.374	0.374	0.410	0.440

Table 3. Cost of production of red pumpkin pedha (Rs / kg)

Sr. No	Particulars	Cost (Rs/ kg)	T_1		T_2		T_3		T_4	
			Qty / kg	Amt / kg	Qty / kg	Amt / kg	Qty / kg	Amt / kg	Qty / kg	Amt / kg
1	Khoa	200.00	1000	200.00	950	190.00	900	180.00	850	170.00
2	Red pumpkin pulp	27.00	-	-	50	1.35	100	2.70	150	4.05
3	Sugar	33.00	300	10.00	300	10.00	300	10.00	300	10.00
4	Labour charges			25.0		25.0		25.0		25.0
5	Fuel charges			10.00		10.00		10.00		10.00
6	Miscellaneous charges			15.00		15.00		15.00		15.00
7	Total coat			260.00		251.00		241.00		234.00

IV. Conclusion

It may be concluded that the superior and nutritional quality red pumpkin pedha can be prepared by addition of 10 parts of red pumpkin pulp and 90 parts of khoa by weight basis with addition of 30 per cent sugar.

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