



P-ISSN: 2349-8528

E-ISSN: 2321-4902

IJCS 2018; 6(2): 3385-3386

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Received: 15-01-2018

Accepted: 16-02-2018

AB Manohar

Final Year Students, K. K.
Wagh College of Agricultural
Biotechnology, Nashik,
Maharashtra, India

AS Gawali

Assistant Professor, Department
of Animal Biotechnology, K. K.
Wagh College of Agricultural
Biotechnology, Nashik,
Maharashtra, India

RM Raundal

Assistant Professor, Department
of Agricultural Statistics, K. K.
Wagh College of Agriculture,
Nashik, Maharashtra, India

VS Kedare

Final Year Students, K. K.
Wagh College of Agricultural
Biotechnology, Nashik,
Maharashtra, India

DV Shinde

Final Year Students, K. K.
Wagh College of Agricultural
Biotechnology, Nashik,
Maharashtra, India

Correspondence**AS Gawali**

Assistant Professor, Department
of Animal Biotechnology, K. K.
Wagh College of Agricultural
Biotechnology, Nashik,
Maharashtra, India

Sensory evaluation of Kalakand enriched with papaya pulp (*Carica Papaya*)

AB Manohar, AS Gawali, RM Raundal, VS Kedare and DV Shinde

Abstract

A study on “sensory evaluation of kalakand enriched with papaya pulp (*Carica papaya*)” was carried out by using buffalo milk. The study was to develop kalakand enriched with papaya pulp in different concentration by using whole milk. And the study on find out the sensory parameters of kalakand prepared by addition of different levels of papaya pulp. Kalakand prepared with 5 per cent papaya pulp was found best treatment.

Keywords: kalakand, papaya pulp, sensory evaluation

Introduction

Milk and milk product content more nutritive value and beneficial for human health. Pedha, Burfi, flavoured milk, flavored milkshake, *kalakand* some are the product prepared in India. Preparation of milk product enriched with many flavor such as, fruit juice, fruit pulp etc. *Kalakand* is partially desiccated milk product with caramelized flavor and texture prepared from acidified milk. Found to be sweet and attractive product consume all type of consumer. Different milk product enriched with fruit juice and pulp has been shown to improve their quality and market price. The study were attempt on preparation of *kalakand* enriched with papaya pulp are rare and hardly reported so far. In general considerable scope for process of *kalakand* enriched with papaya pulp in order to enhance the nutritive value of product. Papaya is a tropical fruit available throughout in year.

Treatment details

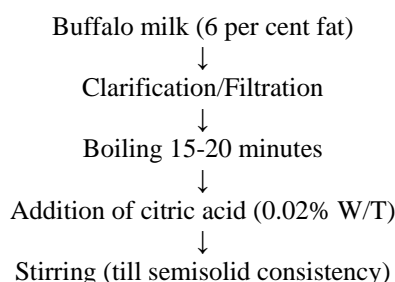
Kalakand was prepared by using four different levels of papaya pulp, control treatment i.e. without papaya pulp. The treatment details Study were:

1. T₀ – 0% papaya pulp + 10% of sugar
2. T₁ – 2.5% papaya pulp + 10% of sugar
3. T₂ – 5% papaya pulp + 10% of sugar
4. T₃ – 7.5% papaya pulp + 10% of sugar
5. T₄ – 10% papaya pulp + 10% of sugar

Materials and Methods

Buffalo milk was obtained from the dairy farm, Nashik and standardized to 6% fat. Superior quality and completely matured papaya fruits and sugar were available from the local market Nashik. Papayas were cut in small pieces after washing with distilled water. Control and experimental *kalakand* were prepared by the method suggested by Aneja *et al.* 2002.

Flow diagram of Papaya Kalakand



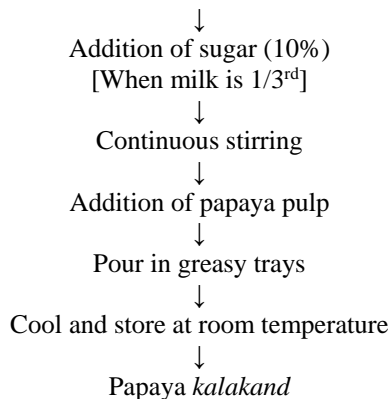


Fig: Process diagram for Standardization of papaya *kalakand*

T₀ Treatment was made from buffalo milk (100%) without addition of papaya's whereas experimental samples of *kalakand* were prepared by using papayas @ 2.5%, 5%, 7.5% and 10% with same sugar level (10%).

Milk was transferred into pan and boiled at 70-80°C, continuous stirring by wooden scoop in circular motion of the heating surface. Add 0.02% of citric acid for coagulation.

When the product reached semi solid condition the concentration of heating was reduced 10% sugar was added, and constantly stirring the product. After moisture lost add papaya pulp on the based on treatment. Finally completed the stirring process product transfer to greased tray for cooling and setting at room temperature. The product was evaluated sensory evaluation on the basis of 9 point hedonic scale. The data collected on different aspects were tabulated and analyzed statically by using ANOVA method.

Result and discussion

Sensory evaluation of papaya *kalakand*

The sensory quality of *kalakand* sample prepared from different level of papaya pulp and evaluated on the basis of 9 point hedonic scale. Sensory parameters are colour, flavor, body and texture, general appearance and overall acceptability.

Table: Sensory Evaluation Of *Kalakand* Enriched With Papaya.

Sample	General appearance and colour	Body and texture	Flavour	Taste	Overall acceptability	S.E	C.D
T ₀	8.0	7.7	8.2	8.3	8.05	0.77	6.18
T ₁	8.1	7.9	8.7	8.5	8.30	0.63	4.97
T ₂	8.6	8.5	8.8	8.7	8.65	0.42	3.41
T ₃	7.7	7.9	8.0	8.1	7.92	0.13	1.05
T ₄	7.6	7.6	7.6	7.8	7.65	0.11	0.88

Colour and appearance

It shows that the colour & appearance score was the highest in treatment T₂ (8.6) than the lowest score was recorded in treatment T₄ (7.6).

Body and Texture

Body & Texture score was the highest in treatment T₂ (8.5) than the lowest score was treatment T₄ (7.6).

Flavour

Maximum and minimum score for flavor was recorded in treatment T₂ (8.8) and T₄ (7.6) respectively.

Taste

Taste was the highest in treatment T₂ (8.7) than the lowest score was treatment T₄ (7.8).

The overall acceptability score was highest in treatment T₂ (8.65) and the lowest value recorded in treatment T₄ (7.65).

Overall acceptability

It is clear from table that the score obtained by treatment T₂ for sensory parameters as colour & appearance, body & texture, Flavour and overall acceptability was (8.6, 8.5, 8.8, 8.65 respectively) highest than control T₀ sample for colour & appearance, body and texture, Flavour and overall acceptability (8.0, 7.7, 8.2, 8.0 respectively).

From the obtained result, it is revealed that as the levels of papaya pulp increase, the score for sensory parameters decrease.

Conclusion

On the basis of above information it can be concluded that the best quality of papaya pulp enriched with *kalakand* can be prepared by addition of 5% of papaya pulp & 10% of sugar as the overall acceptance for treatment T₂ was highest in all sensory parameters. It was also concluded *kalakand* enriched with papaya pulp give more profit that the control and other treatments.

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