

# Preparation and Acceptability of Guava Cheese

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## Abstract

Guava cheese is the chewable confectionary item containing sugar and butter as the major ingredients. Seeds are removed and make fine pulp. According to recipe or treatment combinations the mixture heated up to 70<sup>0</sup>Brix. Then citric acid and salt solution was added and heated up to 77<sup>0</sup>Brix. Then allowed to cool and set. The organoleptic evaluation was carried out of prepared guava cheese. Present experiment was laid out in Completely Randomized Design (CRD) with five treatments viz. T<sub>1</sub>- Guava pulp (1kg) + Sugar (1 kg) + Ghee (100g), T<sub>2</sub> - Guava pulp (1kg) + Sugar (1.2 kg) + Ghee (100 g), T<sub>3</sub> - Guava pulp (1kg) + Jaggery (1kg) + Ghee (100 g), T<sub>4</sub> - Guava pulp (1kg) + Jaggery (1.2 kg) + Ghee (100g), T<sub>5</sub> - Guava pulp (1kg) + Artificial sweetener + Ghee (100 g) were used for formation of guava cheese. Each treatment was replicated four times. The results of the research shows that the guava cheese formed from use of Jaggery 1.2 kg along with 1kg guava pulp and 100g ghee shows good organoleptic rating (7.20) and better quality parameters. However the present investigation of use of different treatment combinations shows a non significant interaction between different treatment combinations. Thus treatment combination in which Jaggery 1.2 kg along with 1 kg guava pulp and 100g ghee was considered the most benefit tested one for formation and acceptability of guava cheese having good texture, colour and taste. This is less costly and farmers could easily adopt to increase their income by formation of guava cheese in the glut period.

## INTRODUCTION

Guava (*Psidium guajava* L.) "apple of tropics" belongs to the family Myrtaceae. Guava is a tropical fruit but also grows well under sub-tropical conditions. It occupies 4<sup>th</sup> position in terms of area and production among fruits crops of India. It is one of the most common and major fruit of India (Naik and Thippesh, 2010).

In India the area under guava fruit is 268 lakh ha and production is about 3668 lakh MT with productivity of 13.7 MT/ha. In Punjab area is 8.2 lakh ha. with production 180.8 lakh MT and productivity 22.0 MT/ha. (NHB, 2014). Guava is a seasonal fruit and highly perishable with very short shelf life. Under these conditions guava growers fail to get attractive returns and a lot of produce goes as waste. The purpose of post harvest processing of guava is to save the waste and saving its nutritive value.

Fruit cheese is the chewable confectionary items containing sugar and butter or vegetable fat or ghee as the, major ingredients. Due to their taste or flavour, they enjoy wide popularity and acceptance

among children. Incorporation of fruit pulp in cheese contributes towards improving the vitamin and mineral content of cheese.

Additionally a variety of flavours can be obtained with fresh fruit pulp. The present research "Effect of different treatments on formation and acceptability of guava cheese" was conducted with the objective to select the best quality treatment of guava cheese with acceptable taste.

## MATERIALS AND METHODS

### Preparation of Guava Cheese:

Present experiment was laid out in the laboratory of Mata Gujri college, Fatehgarh Sahib, Punjab, India, in Completely Randomized Design (CRD) with five treatments viz. Guava pulp (1kg) + Sugar (1 kg) + Ghee (100g) (T<sub>1</sub>), Guava pulp (1kg) + Sugar (1.2 kg) + Ghee (100 g) (T<sub>2</sub>), Guava pulp (1kg) + Jaggery (1kg) + Ghee (100 g)(T<sub>3</sub>), Guava pulp (1kg) + Jaggery (1.2 kg) (Ghee 100g)(T<sub>4</sub>), Guava pulp (1kg) + Artificial sweetener + Ghee (100g) (T<sub>5</sub>) were used for the formation of guava cheese. Each treatment was replicated four times.

**Ingredients used:** Fresh guava pulp, Sugar, Jaggery, Artificial Sweetener, Ghee, Citric acid and Salt.

### Preparation of Guava Cheese

Guava cheese is the chewable confectionary items containing sugar and butter or ghee or vegetable fat as the major ingredients. Fresh guava were taken and washed followed by cutting into pieces, removing seeds and make it into fine pulp. According to treatment combinations or recipe sugar and ghee were added in pulp and heated up to 77 °Brix. It was then allowed to cool and set. The prepared guava cheese was cut into cubes and packed in polythene sheets. Shelf life of guava cheese is higher up to three to six months at room temperature or in refrigerator (Fig 1).

### Organoleptic rating (1-9 Scale)

The fruits were rated for this character by a panel of ten judges on the basis of external appearance of fruits, texture, colour, taste, sweetness, flavour and overall acceptability. A nine point 'Hedonic Scale' described by Amerine et al. (1965) was used. Organoleptic rating was carried out using a nine-point hedonic scale (1= dislike extremely 9 like extremely) water was also provided for the tasters to rinse their mouth after each evaluation under a well lighted evaluation room.. Organoleptic rating was carried out by parameters of: a) Flavour, b) Chewiness, c) Colour, d) Sweetness, e) Overall acceptability.



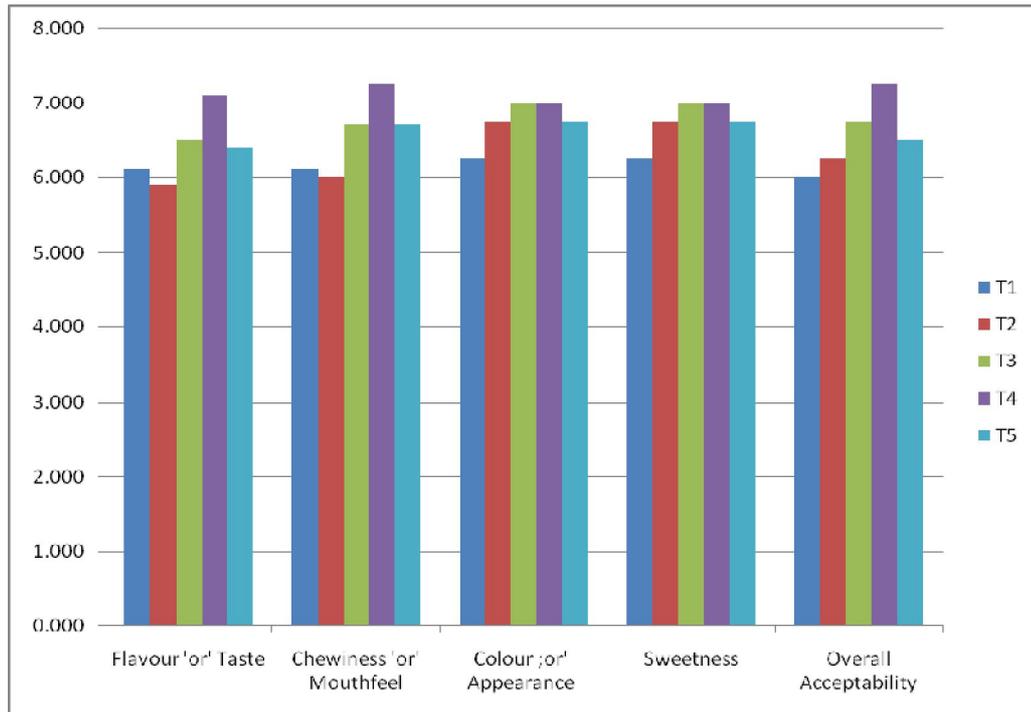
**Figure 1. Guava cheese formed from various treatment combinations**

## RESULTS AND DISCUSSION

### Organoleptic Quality

Organoleptic rating of guava cheese was non-significantly influenced by different treatments in case of formation and acceptability of guava cheese as shown in Fig 2. The data present in the table indicate that the highest or maximum organoleptic rating (7.12) for flavor or taste, colour or

appearance, chewiness or mouthfeel, in T4 i.e. Guava pulp (1kg) + Jaggery (1.2kg) + Ghee (100g) and minimum organoleptic rating was found in T1 i.e. Guava pulp + Sugar (1kg) + Ghee (100g). These results are in accordance with the findings of Adhau et al. (2014), Ashaye et al. (2005), Babalola et al. (2002) and Cheman et al. (1986).



**Figure 2. Effect of different treatments on organoleptic rating of Guava Cheese (Overall Acceptability) (Out of 9)**

## CONCLUSION

The present investigation clearly indicates that good quality guava cheese can be prepared using fleshy guava varieties. Such varieties are abundantly available in tropical and in sub tropical area of country. Moreover such fruits are the most susceptible for spoilage and hence fruit cheese preparation provides a good use for it. The guava cheese formed using different treatment combinations shows a non significant interaction between different treatment combinations.

However the present study suggests that the formation of guava cheese with use of Jaggery 1.2 kg along with 1kg guava pulp and 100g ghee has good texture, colour, organoleptic rating and taste.

## REFERENCES

- A.O.A.C. 1975. Official methods of analysis, 12<sup>th</sup> Edn. Assoc Official Analytical Chemists, Washington D.C., U.S.A.
- Adhau G.W. and Salvi V.M. 2014. Formation and quality acceptance properties of guava cheese. *International Journal of Advanced Research*, **2** (11): 665-669.
- Amerine , M.A., Pangborn, R.M. and Rossler, E.B. 1980. Principles of sensory evaluation of

foods. Academic press New York, pp 523-447.

- Ashaye O.A. , Babalola S.O., Babalola A.O., Aina J.O., and Fasoyiro S.B. 2005. Chemical and organoleptic characterization of pawpaw and guava leathers. *World Journal of Agricultural Sciences*. **1** (1): 50-51.
- Babalola S.O., Ashaye O.A., Babalola A.O.and Aina J.O. 2002. Effect of cold temperature storage on the quality attributes of pawpaw and guava leathers. *African Journal of Biotechnology*, **1**(2): 61-63.
- Ranganna, S. 1977. Manual of analysis of fruit and vegetable produce. pp. 169-172.