

## Development and Evaluation of Value Added Product from Guava and Indian Plum

**Dr. Rachna Mishra**

Associate professor, Department of H.Sc  
Isabella Thoburn College, Lucknow

**Tatheer Raza, M.Sc**

### Abstract

*The study was conducted on the topic “development and evaluation of value added products from guava and Indian plum”. In this research a product was developed from guava and ber and its sensory evaluation and nutrient analysis test were held. To enhance the nutritional quality and overall of the product, the combination of such fruits were taken as both the fruits are a rich source of vitamin c and iron content. The result also justifies this; hence it is helpful for us to store such nutrient rich fruits by making different products. Especially if there is a deficiency of vitamin c and iron in the body.*

**Keywords:** value added product, sensory evaluation, nutrient analysis

### Introduction

In folk medicine, Guava or *Psidium guajava* plays an important role, its extracts of roots, bark, and leaves are used to treat gastroenteritis, vomiting, diarrhoea, dysentery, wounds, ulcers, toothache, coughs, sore throat, inflamed gums, and a number of other conditions. Eating the fruit may well have longer term cardio protective effects as a result of the antioxidant and free radical protection the plant was proved to offer. The fruit is also a source of antioxidant dietary fibre. Ber fruit or Indian Jujube or Chinese apple is a Vitamin C rich fruit, used in Ayurveda for treating bleeding disorders, excessive thirst, fever, burning sensation etc. Its seeds possess anti cancer potential. Its fruits are commonly consumed during pregnancy, lactating mothers and by children. (Meyer, Joseph E.1918) .Its fruits are consumed as it is. It is also made into pickles, beverages.

### Objectives of the study

- To develop the food product from guava and Indian plum.

- To check the acceptability of the products through sensory evaluation.
- To analyse the nutritive value of the products.

### Methods and Material:

The products were prepared from the guava and ber pulp. I.e. JAM with three different ratios in their amount. For the sensory evaluation of the developed product, 30 panelists were selected. For this purpose a sensory evaluation sheet was prepared and distributed to the subjects and then they filled the sensory evaluation sheet on the basis of taste, flavor and acceptance of the developed products. For this hedonic scale test was used. This test relates to pleasurable or unpleasurable experiences. Samples are served to the panelist at one session. He once is asked to rate the acceptability of the product on a scale usually of 9 points, ranging from 'like extremely' to 'dislike extremely'. Scale with different ranges and other experience phrases could also be used. The results are analysed for preference with data from

large untrained panels. And then the final data was statistically analysed with the statistical tool. The test used for this was Friedman test. Then the product was analysed to justify the third objective of the study, i.e. nutrient analysis. For this product was submitted to the authorized nutrient analysis centre.

### Findings

According to the result of sensory evaluation one product scored highest among all the three products in all the parameters of sensory evaluation. And according to the nutrient analysis report, product was rich in vitamin c and iron content.

### Conclusion

The research work on the topic development and evaluation of value added products from guava and India plum gives knowledge about the importance of these fruits in terms of their nutritional benefits as well as the products developed from these fruits are highly acceptable among people. Indian plum or ber is a good source of iron and vitamin c, but it is negligible among Indian society as most of the people are not aware of its nutritional benefits. Hence, this study is one of the best ways to focus on such neglected fruit and make people aware so that they can help themselves in deficiency of any of these nutrients. Guava is a very common fruit consumed by Indian society and hence it is very easy for people here to make products from this throughout year, as it is not a seasonal fruit as ber is.

### References

1. Huang, X. and Hsieh, F.H. (2005) Physical Properties, Sensory Attributes, and Consumer Preference of Pear Fruit Leather. *Journal of Food Science*, E177-E186.
2. Khan, R.S., Grigor, J., Winger, R. and Win, A. (2013) *Functional Food Product Development—Opportunities and Challenges for Food Manufacturers*. Trends in Food Science & Technology,
3. Conlon, L.E. and Erdman Jr., J.W. (2015) Nonnutritive Components in Foods and Cancer Risk. In: Bendich, and Deckelbaum, R.J., Eds., *Preventive Nutrition*, Springer International Publishing, 215-242.
4. Selani, M.M., Bianchini, A., Ratnayake, W.S., Flores, R.A., Massarioli, A.P., de Alencar, S.M. and Brazaca, S.G.C. (2016) Physicochemical, Functional and Antioxidant Properties of Tropical Fruits Co-Products. *Plant Foods for Human Nutrition*
5. Holzwarth, M., Korhummel, S., Siekmann, T., Carle, R. and Kammerer, D.R. (2013) Influence of Different Pectins, Process and Storage Conditions on Anthocyanin and Colour Retention in Strawberry Jams and Spreads. *LWT—Food Science and Technology*, 131-138 US Department of Health and Human Services and US Department of Agriculture (2015) 2015-2020 Dietary Guidelines for Americans. 8th Edition.
6. Gehlot, R. and Singh, R. (2007) Changes in Chemical Composition of Bael-Guava Cheese and Toffee during Storage. *Haryana Journal of Horticultural Sciences*,
7. Ellshoff, Z.E., Gardner, D.E., Wikler, C. and Smith, C.W. (1995) *Annotated Bibliography of the Genus Psidium, with Emphasis on P. cattleianum (Strawberry Guava) and P. guajava (Common Guava)*, Forest Weeds in Hawaii”
8. Pommer, C.V. and Murakami, K.R. (2009) Breeding Guava (*Psidium guajava* L.) In: *Breeding Plantation Tree Crops: Tropical Species*, Springer, New York.
9. Dhiman, A., Nanda, A., Ahmad, S. and Narasimhan, B. (2011) In Vitro Antimicrobial Activity of Methanolic Leaf Extract of *Psidium guajava* L. *Journal of Pharmacy and Bioallied Sciences*.
10. Mercadante, A.Z., Steck, A. and Pfander, H. (1999) Carotenoids from Guava (*Psidium guajava* L.): Isolation and Structure Elucidation. *Journal of Agricultural and Food Chemistry*.
11. Miesan, K.H. and Mohamed, S. (2001) Flavonoid (Myricetin, Quercetin, Kaempferol,

- Luteolin, and Apigenin) Content of Edible Tropical Plants. *Journal of Agricultural and Food Chemistry*.
12. Gutiérrez, R.M.P., Mitchell, S. and Solis, R.V. (2008) *Psidium guajava*: A Review of Its Traditional Uses, Phytochemistry and Pharmacology. *Journal of Ethnopharmacology*.
13. Mercado-Silva, E., Benito-Bautista, P. and de los Angeles Arca-Velasco, M. (1998) Fruit Development, Harvest Index and Ripening Changes of Guavas Produced in Central Mexico. *Postharvest Biology and Technology*.
14. Perry, L.M. and Metzger, J. (1980) *Medicinal plants of East and Southeast Asia: Attributed Properties and Uses* (Vol. 620). MIT Press, Cambridge, London.
15. Sharma, R. K. 1996. Physiological and biochemical studies in ber during ripening on tree and in storage. PhD Thesis. Choudhary Charan Singh Hisar Agriculture University, Hisar, Haryana, India.
16. Shena, X., Y. Tanga, R. Yangb, L. Yua, T. Fanga and J. A. Duan. 2009. The protective effect of *Zizyphus jujube* fruit on carbon tetrachloride induced hepatic injury in mice by antioxidant activities. *J. Ethnopharmacol.*
17. Singh, B. P., S. P. Singh and K. S. Chauhan. 1981. Certain chemical changes and rate of respiration in different cultivars of ber during ripening. *Haryana Agric. Univ. J. Res.*