



# SENSORY EVALUATION OF PAPAYA LEAF JELLY PREPARATION

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## Abstract

**jelly**, a semi-transparent confection consisting of the strained juice of various fruits or vegetables, singly or in combination, sweetened, boiled, slowly simmered and congealed often with the aid of pectin, gelatin or a similar substance.

The juices of most fruits, berries and many vegetables are suitable for processing into jelly. Juices high in pectin, such as those of citrus fruits and apples, congeal readily after cooking with sugar and may be added to the juices of low-pectin fruits, vegetables, herbs, such as blueberries, green peppers, or mint, to promote gelling.

**Keywords:** semi-transparent, pectin, juice.

## Introduction

A whole Papaya tree is healthy from its fruit to the leaves. The entire tree has medicinal properties that make papaya a great option to include in your diet. Papaya leaf juice is one of the effective treatments for dengue fever. Along with allopathic medicines, this traditional medicine works miraculously to taper off the body temperature. Dengue fever brings down the blood platelet count, and the papaya leaf extract is known to help to increase the platelet count. Malaysian studies proved that papaya leaf extract contributes to the production of platelets and increases the platelets count. It also prevents dengue complications such as rashes over the body, haemorrhages, etc. During dengue fever, a small glass of papaya juice twice a day can significantly increase the platelets count and reduce the fever.

It is rich in enzymes like papain and chymopapain, which aid digestion, prevent bloating and other digestive disorders. The alkaloid compound in it works effectively against fighting dandruff and balding. The leaves contain a high amount of vitamins A, C, E, K and B.

Carica papaya, commonly called papaya, is grown in tropical regions and is one of the most loved fruits. This yellowish-orange fruit is full of nutrients, which is great for our health. It has antibacterial properties and almost every part of the papaya plant can be used.

Papaya leaves have plasmodium static properties, which means that it decelerates the rate of growth of plasmodium in your body, which in turn controls the malarial fever. Papaya leaf juice effectively increases the antioxidant levels in patients, hence preventing anaemia induced by malaria in them. Papaya leaves contain lycopene that has anti-cancer properties. It prevents cancer-cell development and further complications.

Leaves have been emerged as one of the most useful parts with plethora of health-promoting compounds and activities.

Leaves of papaya are known to have various health-promoting phytochemicals, as it arose from chemical analysis performed in various studies which clearly illustrated the presence of significant amounts of alkaloids, saponins, glycosides, flavonoids, phenolic compounds, enzymes, amino acids, lipids, carbohydrates, vitamins, and minerals.

## **Materials and Methods**

### **Fruit Selection**

Freshly mature papaya leaf and ripe papaya were purchased from the local market of lucknow.

### **Preparation**

Sorting and grading are essential to get suitable quality of leaf and fruit which was done by hand. The leaf and fruit were first thoroughly washed under running tap water to reduce soil, plant and debris load. Grading of fruit was done based on cleanliness, firmness, soundness, maturity, weight, color, size, shape, freedom from foreign matters, insect damage and mechanical injury. Boiled the papaya leaf for 5 min.

### **Extraction of Leaf and Fruit Juice**

From the graded papaya the juice was extracted manually. It was homogenized in a mixer to obtain fine fruit juice from pulp. Leaf juice was also extracted through straining after processed in mixer.

### **Preparation of Jelly**

Leaf and Fruits are preserved in the form of jelly by relying upon the high solids-high acid principle. For the preparation of jelly leaf and fruit Juice were obtained from pulp.

### Flow Chart for Papaya leaf Jelly Preparation

Selection and preparation of papaya leaf and papaya.



After Sorting and grading, extract the juice from leaf and pulp to blend in mixer.



Strain the juices from pulp.



After straining, add juice in pan and stir it continuously 2-3 min at medium flame.



After 10 min, add pectin & stevia powder & stir continuously.



Then judge the thickness of juice according to jelly and add citric acid and judging the end point (TSS) using refractometer.



After 2 min, add food colour and stir it till 5 minutes.



Off the gas flame and leave it to cool at room temperature.



After cooling, Packing (filled the jelly into a clean, dry sterilized glass jar).



Cooling, Capping and Storage (at ambient temperature).

### Consumer acceptability and sensory evaluation

A hedonic scale used for sensory evaluation of product and consumer perception developed as a possible descriptive acceptance testing method that includes a 9 hedonic scale.

The 9-points hedonic scale reflects and describes consumer perceptions and satisfaction. This study was conducted on approximately 30 students studying at our university. Consumer were required to rate the prepared jelly based on taste, aroma, color and appearance. They received the hedonic score cards indicated in the table.

Rating scale/Hedonic scale	Score
Like extremely	9
Like very much	8
Like moderately	7
Like slightly	6
Neither like nor dislike	5
Dislike slightly	4
Dislike moderately	3
Dislike very much	2
Dislike extremely	1

## Result and discussion

30 people from our university were selected for sensory evaluation and presented with papaya leaf jelly sample. Sample were distributed to people and sensory evaluation for taste, smell, taste, shape and texture were done.

**Table 1. sensory score of papaya leaf jelly on the basis of overall acceptance**

panellist	Appearance/colour	Taste/ flavour	Smell/ odour	Texture/ mouth feel
P1	7	8	8	7
P2	9	8	9	8
P3	7	8	8	9
P4	9	9	9	9
P5	7	8	8	6
P6	8	9	9	9
P7	8	7	7	8
P8	8	8	8	8
P9	7	7	9	8
P10	9	8	9	8
P11	8	9	8	9
P12	9	9	9	8
P13	9	8	7	6
P14	7	9	8	9
P15	8	9	7	8
P16	9	8	8	9
P17	7	8	7	7
P18	9	9	9	9
P19	6	6	7	3
P20	9	8	9	8
P21	9	8	9	9
P22	9	8	9	9
P23	9	8	9	9
P24	9	8	9	9
P25	7	8	8	8
P26	8	8	8	7

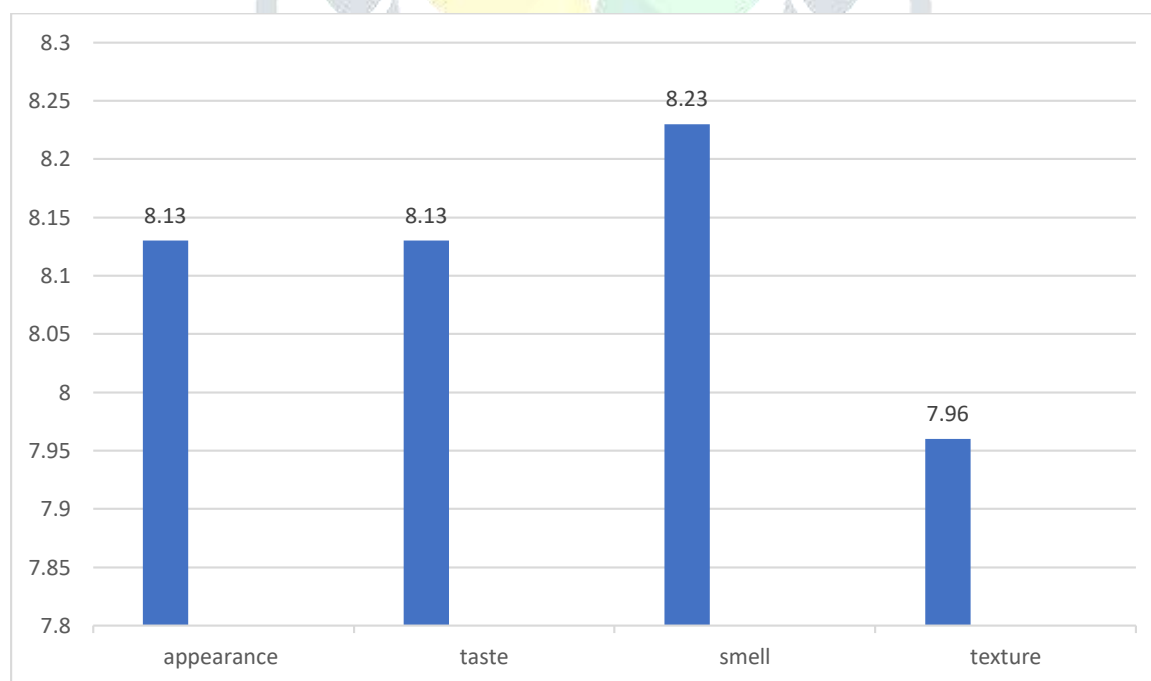
P27	7	8	7	8
P28	8	8	9	8
P29	9	9	9	8
P30	9	8	7	8
Total	244	244	247	239
Mean	8.13	8.13	8.23	7.96
Standard deviation	0.68	0.08	0.26	0.08

### Overall observation

The parameter on the basis of which the overall acceptance of the jelly was examined are taste, appearance, texture and smell. The calculated total, standard deviation and mean is shown in the above table. The developed product was tested on several parameters and it was found that the smell of jelly was most accepted amongst all the parameter.

**Table 2. Mean scores of the five sensory attributes of the jelly preparation**

Attributes	sample
Appearance	8.13
Taste	8.13
Smell	8.23
Texture	7.96



**Graph 1. Graphical representation of overall acceptance**

## Conclusion

Consumer acceptance of products developed from papaya leaf, papaya, stevia powder, pectin, food color and citric acid, was tested by professors and residents of the Babasaheb Bhimrao Ambedkar University using a 9-point hedonic scale. The prepared samples were tested on a total of 30 consumers and were evaluated for appearance, taste, smell and overall acceptability of which smell of jelly was liked by most of the consumers.

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