

# Organoleptic Properties of Products Made by Using Betel Leaf

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**Abstract:** *Taste of food is one of the major attributes in judging the acceptance of food. The taste is associated with basic taste, types, of food, types of processing adopted, ingredients used, pre concept of food, age and situation, environmental condition, cultural conditions and food habits. Taste as well as test sensation with reference to food taste quality, food systems and food acceptance have been reported with the support of research finding. Though the acceptance of foods is based on sensory attributes of colour, flavour, texture, taste, appearance taste plays a predominant role in establishing the product shelf life which is a binding faster for preserved foods. A pragmatic practical approach on taste alone is dealt in this paper.*

**Keywords:** sensory attributes, concept of food, pragmatic practical

## 1. Introduction

**Betel leaf** is one kind of plant that is often used as traditional medicine. Betel leaves are rich in vitamins and nutrients that are good for health. Betel leaves are rich in antioxidants and have anti-fungal properties. How to take advantage of these leaves is by boiling. These leaves have a Latin name Piper betel. **Betel leaves** are easy to find and you can use to treat a variety of ailments. For more details, here are the health benefits of betel leaves.

There are several types of betel, but only 2 that commonly people know, red and green betel. Betel leaves widely used as traditional medicine in ancient times because of its efficacy. Unfortunately, not all lot of people understand about the advantage of betel, so only use it as a decoration in their house. Betel leaves grow vines on the ground and also propagate in other plants. Generally betel has high antioxidants that can give health benefits to the body.

Betel leaves also has a variety of vitamins and other nutrients such as vitamin C, niacin, carotene, thiamine, riboflavin, carbohydrates, fiber, fat, protein, minerals, essential oils, starch, phenyl propane, diaste, kavibetol, cyneole, and calcium. Substances present in betel leaves can be used as a traditional herbal medicine to treat various health problems.

Paan choor is like a mouth freshener and it also works as a substitute of tobacco.

Gul Pan is a testy and nutritious preparation of fresh betel leaf.

Paan Lata is a sweet of fresh betel leaf and mawa.

Paan Squash is a drink of boiled fresh betel leaf.

**Organoleptic properties or Sensory evaluation** is a scientific discipline that analyses and measurement human

responses to the composition of betel leaf product, e.g., appearance, touch, odour, texture, temperature and taste. In schools it provides an ideal opportunity for students to evaluate and give feedback on their dishes, test products and experimental designs.

- Sensory evaluation can be used to:
- Compare similarities/difference in a range of dishes / product.
- Evaluate a range of existing dishes/food products.
- Analyse food samples for improvement.
- Gauge responses to a dish/product, e.g. acceptable and unacceptable.
- Explore specific characteristics of an ingredient or dish/food product.

## 2. Methodology

### 1) Collection of Ingredients

Fresh betel leaf was collected from local market. The betel leaves were washed with clean water to remove dirt, sand and other undesirable materials before use.

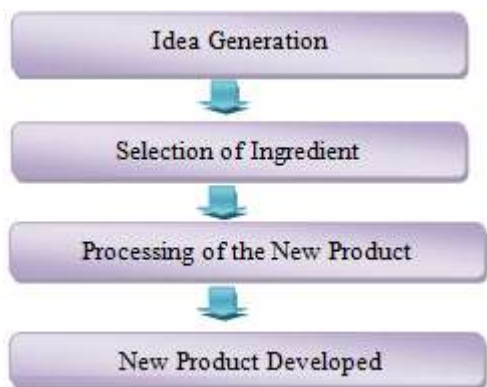
### 2) Preparation of Classified Samples

This phase involved the processing of sample of betel leaf which is collect from local market of Lucknow. All of these products are cleaned and pure. All ingredients are purchases in spencers which is located in Lucknow.

Other materials like coconut, cherry, dry fruits, mawa etc required for value added product of betel leaf making were purchased from local market.

### 3) Product Development

This phase involved the whole idea of development of value added product of betel leaf by using different ratio of coconut, gulkand, cardamom, dry fruits etc combinations.



**Development of a new product**

**Four value added products:**

1. Gul paan
2. Paan lata
3. Paan chur
4. Paan squesh

**3. Result and Discussion**

**Sensory evaluation**

Sensory evaluation of value added product was done by the 5 member panellist.

1. Ratio of ingredients for four samples are taken in different ways-

**Ratio of Ingredients**

Treatments	Sample preparation	Ratio of Ingredients
T <sub>1</sub>	Gul paan (Betel leaf+other ingredients)	40:60
T <sub>2</sub>	Paan lata (Betel leaf+other ingredients)	50:50:00
T <sub>3</sub>	Paan chu r(Betel leaf+other ingredients)	30:70
T <sub>4</sub>	Paan squesh (Betel leaf+other ingredients)	50:50:00

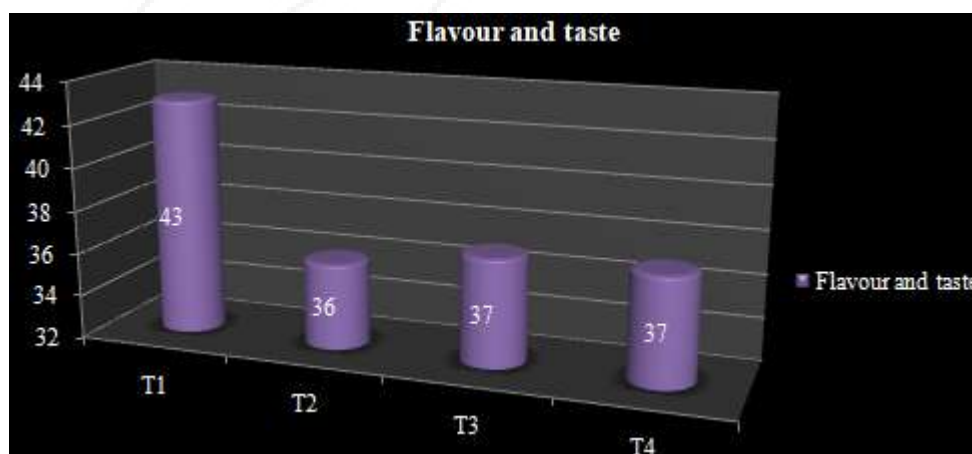
• **Note: Other ingredients**

- **T1** -Fresh coconut, fresh cherry, colourful souf, gulkand.
- **T2** -Mava, sugar, Dry fruits
- **T3** -Piperment, sauf, Gulkand, bale seed.
- **T4** -Sugar, preservati1

**1) Parameter 1- Flavour and Taste**

Member	T1	T2	T3	T4
1	9	8	8	8
2	9	8	8	7
3	9	7	7	8
4	8	7	6	6
5	8	6	8	8

**Graphical Presentation of Flavour and Taste**

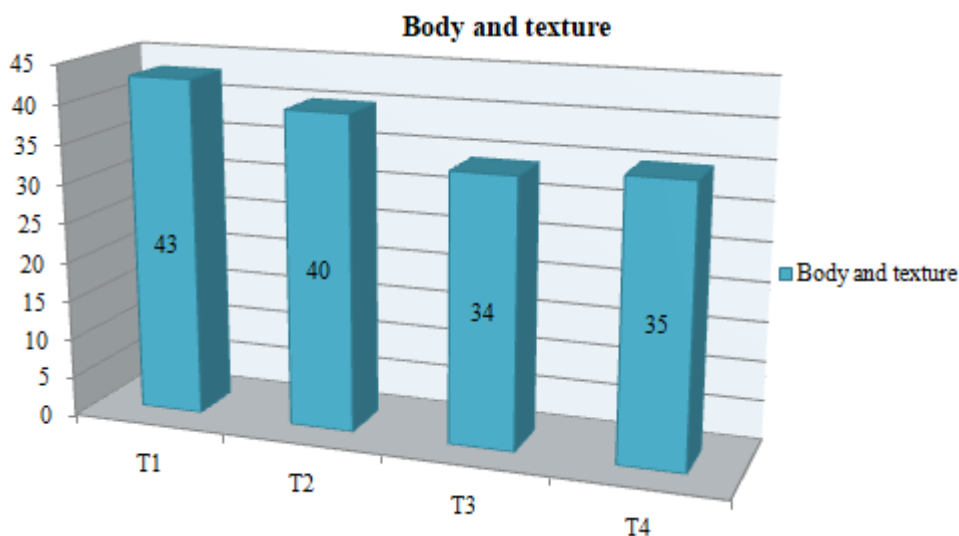


From the above graph it shows that the Sample T1 is most accepted among the panellist members and it gets highest scoring, then after sample T2, T3 and sample T4 respectively.

**2) Body and Texture table presentation**

Members	T1	T2	T3	T4
1	8	7	5	7
2	9	8	7	8
3	7	6	6	9
4	9	7	6	7
5	8	7	6	8
Total	43	40	34	35

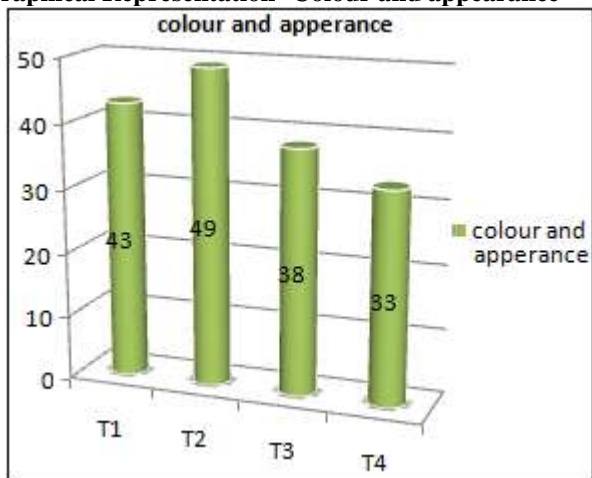
Graphical Representation- Body and texture



3) Individual markings- Colour and Appearance

Member	T1	T2	T3	T4
1	9	9	7	7
2	8	8	8	8
3	9	8	8	6
4	9	8	8	6
5	8	8	7	6
Total	43	49	38	33

Graphical Representation- Colour and appearance



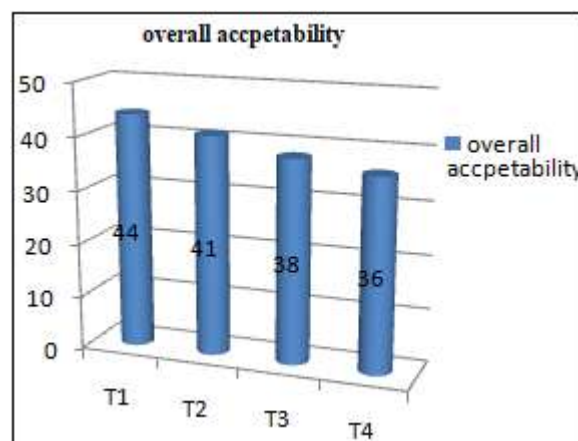
From the above graph it shows that the sample T1 is most accepted in terms of colour and appearance among the sensory panellist members and it gets highest scoring, then after sample T1 and T2 respectively.

4) Overall Acceptability

- Individual Markings- Overall Acceptability

Members	T1	T2	T3	T4
1	9	9	8	6
2	8	8	8	7
3	9	8	8	8
4	9	8	7	8
5	9	8	7	7
Total	44	41	38	36

Graphical Representation- Overall acceptability



From the above graph it shows that the sample T1 is most accepted overall among the sensory panellist members and it gets highest scoring, then after sample T2, T3 and T4 respectively. The overall quality of Betel leaf product with 40% betel leaf product was the most acceptable in all the parameters of quality.

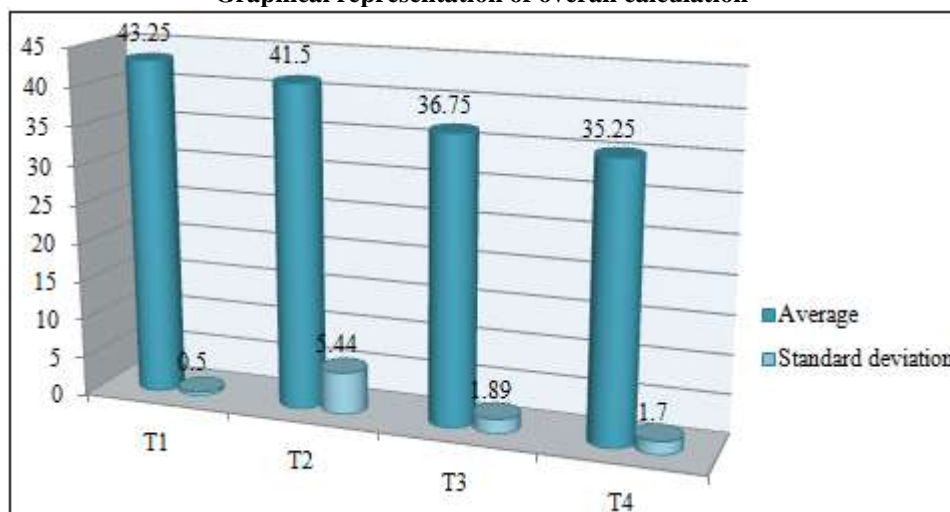
5) Overall Calculation

Overall calculation are done to know most acceptability of the product in all terms of quality by sensory evaluation scoring given by the panellist members, in this all scoring of texture, colour, flavour and taste are calculated in the table, by this we get do statistical analysis and obtained standard deviation, average and other calculations.

Overall Calculation

Parameters	T1	T2	T3	T4
1	43	36	37	37
2	43	40	34	35
3	43	49	38	33
4	44	41	38	36
Total	173	166	147	141
Average	43.25	41.5	36.75	35.25
Standard Deviation	0.5	5.44	1.89	1.70

**Graphical representation of overall calculation**



In this table of overall calculation we got the average of T1, T2, T3 and T4 as 0.5, 5.44, 1.89 and 1.70 respectively.

#### 4. Conclusion

Result & discussion chapter in any research work must be compiling with summarization & conclusion section. So, keeping this point this chapter showed every table value with highlighting point,

##### 1) Product development

Four samples were prepared by using betel leaf and other ingredient in different ratio.

##### 2) Sensory quality value added products of betel leaf.

The sensory evaluation of the **value added products of betel leaf** was done by using 9- point hedonic scale by a panel of 5 members. The scoring for each of the samples of products by various parameter i.e. flavour, taste, texture, colour, appearance and overall acceptability. There were 4 samples of different percentage of ingredients, but by sensory evaluation card the sample T1 with (40% betel leaf and 60% other raw ingredients) T1 sample (Gul paan) was most accepted among the three.

#### References

- [1] Maisuthisakul, P., Suttajit, M. and Pongsawatmanit, R., 2007. Assessment of phenolic content and free radical-scavenging capacity of some Thai indigenous plants. *Food chemistry*, 100(4), pp.1409-1418.
- [2] MOLLAH, M., 2016. *INVESTIGATION ON THE LEAF ROT AND FOOT AND ROOT ROT OF BETEL VINE (PIPER BETLE L.) IN SATKHIRA DISTRICT OF BANGLADESH* (Doctoral dissertation).
- [3] Pin, K.Y., Chuah, T.G., Rashih, A.A., Law, C.L., Rasadah, M.A. and Choong, T.S.Y., 2009. Drying of betel leaves (Piper betle L.): Quality and drying kinetics. *Drying Technology*, 27(1), pp.149-155.
- [4] Rayaguru, K., Khan, K., Sahoo, G. and Panda, M.K., 2008. Studies on Storage Characteristics of Betel Leaves. *Ama, Agricultural Mechanization in Asia, Africa & Latin America*, 39(3), p.42.
- [5] Rayaguru, K., Pal, U.S. and Khan, M.K., 2011. Development and Evaluation of Betel Leaf Conditioning Chamber. *AMA-Agricultural Mechanization in Asia Africa and Latin America*, 42(3), p.61.
- [6] Sharan, R.N., 1996. THE USE OF BETEL NUT. A reca care chu L. *The Cancer Journal*, 9(1).
- [7] Shah, B., Sheth, F. and Parabia, M., 2011. Documenting Grandmas' prescriptions for skin ailments in Valsad district, Gujarat.
- [8] Sadhukhan, S. and Guha, P., 2011. Post-Harvest Technology of Betel Leaf (Piper Betle L.): Effect of Curing on Quality and Physiological Parameters. *AMA-Agricultural Mechanization in Asia Africa and Latin America*, 42(3), p.47.
- [9] Vengaiah, V., 2014. Studies On The Effect Of Betel Leaf Stalk Extraction On Reproductive Metabolic Activities Of Male Albino Rats.