

DEVELOPMENT AND ANALYSIS OF ANTI-DIABETIC JELLY

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Abstract: Anti-diabetic jelly is made out of betel leaves and molasses to make use of nutrient-rich betel leaves which are not usually consumed by everyone but are an excellent source of nutrients. Betel leaves have benefits like wound healing, and antiseptic and are great sources of vitamin c, riboflavin, and calcium.

INTRODUCTION

Betel leaves are generally consumed as paan along with tobacco but people don't realize its health benefits. Its biological name is *piper betel*. It is usually grown in India, Malaysia, Indonesia, the Philippines, and East Africa. It is rich in protein, vitamin c, calcium, potassium, minerals, and essential oils. It prevents cancer, good source of antioxidants, helps in allergic reactions, prevents fungal growth, it helps in wound healing, and also helps in constipation.

Molasses is a byproduct of sugar production from sugarcane. There are many types of molasses-like sulfured molasses, unsulfured molasses, blackstrap molasses, etc. dark molasses, light molasses, etc. blackstrap molasses has about 55% of sucrose. Molasses has higher nutrients than refined sugar. It is a thick syrup used as a sweetener. It is rich in manganese, and magnesium. Selenium, copper, vitamin B6, potassium, calcium, etc. It promotes cardiac health, and bone health, and is also rich in antioxidants.

Objectives

To make an Anti-Diabetic jelly utilizing betel leaves and molasses.

MATERIAL AND METHODS

- Betel leaves
- Molasses
- Lemon juice
- Gelatin
- Water

Betel leaves are boiled in water to extract the essence it. The betel leaves essence and water were boiled along with lemon juice and molasses. At the boiling temperature, the gelatine was added and cooked for 50-60 seconds. Then the mixture was poured into containers to set it. Leave it at room temperature for 45 min. Two variants of jelly were made. One was made with 50 ml betel essence, 50 ml water 5 ml molasses, and 100 ml gelatine. Another variant was made with 25ml betel essence, 75ml water 10ml molasses, and 100ml gelatine

Variations	Molasses	Betel leaf essence	Water	Gelatin
1	5ml	50 ml	50 ml	100 ml
2	10ml	75 ml	25 ml	100 ml

Table 1

Proximate analysis

- Moisture content
- Uv spectrophotometry
- pH
- sensory
- brix
- polarimetry

RESULTS AND DISCUSSION

Sensory analysis

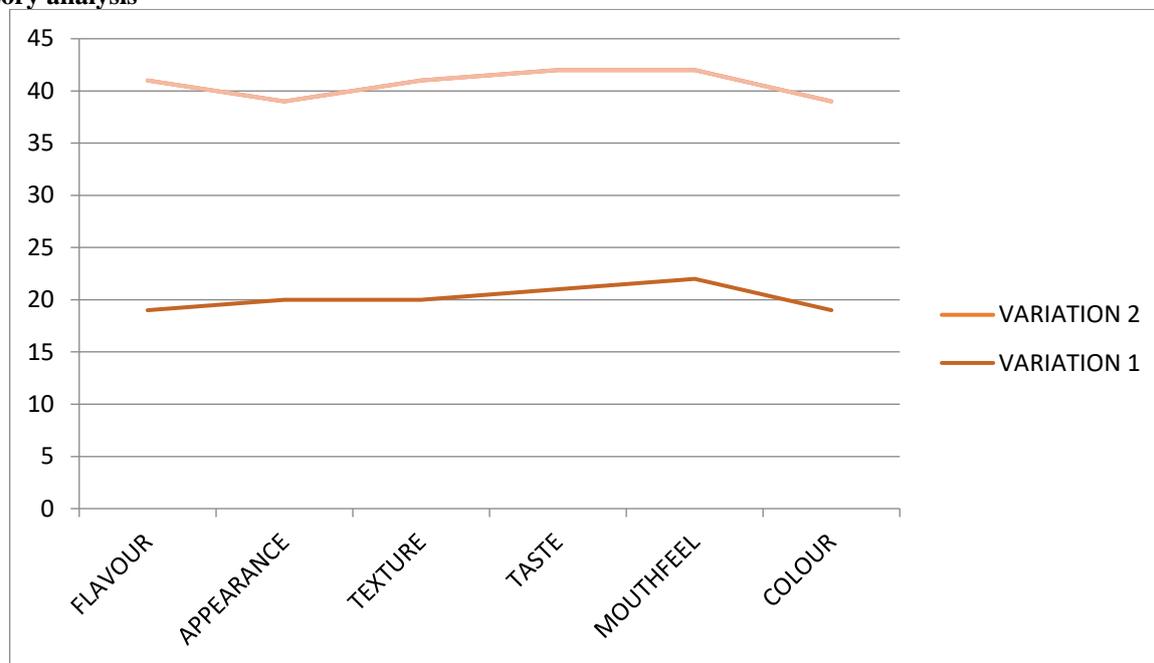


Fig 1

Tests	Standard	Variation 1	Variation 2
Brix	68 Brix	65 Brix	62 Brix
moisture	0.8-0.22g/kg	0.11g	0.14g
Uv spectrophotometry	3-4	3.187	4.286
Polarimetry	1-2	1.68	1.59
pH	3-5	3.56	3.45

Table 2

Proximate analysis like Brix, polarimetry, UV spectroscopy, ph, and moisture analysis was done on the jelly. The Brix value was found to be 65 Brix in variation 1 and 62 Brix in variation 2. Moisture was found to be 0.11g in variation 1 and 0.14g in variation 2. The colorimetric value was found to be 3.187 in variation 1 and 4.286 in variation 2. The polarimetry value of variation 1 was found to be 1.68 and variation 2 was found to be 1.59. The pH value of variation 1 was 3.56 and variation 2 was 3.45.

CONCLUSION

According to the sensory analysis conducted for the jelly, it was found to be that variation 1 was more acceptable and palatable than variation 2. Because it was sweeter and had a better mouth feel.

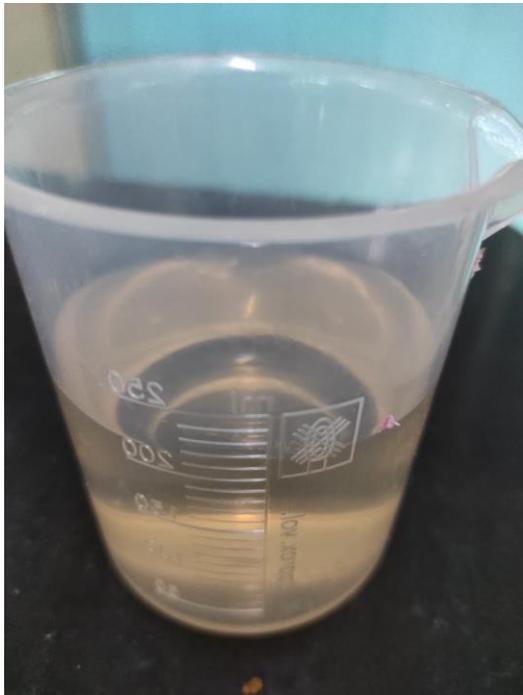
Appendix**Betel leaf essence**

Fig 2

**preparation of jelly**

Fig 3

REFERENCES

1. Rimando, Agnes.M, Han, Byung Hoon (1986) studies on the constituents of Phillippine piper betel leaves.
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