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## Studies on Quality Parameters of Pine Apple Burfi

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### ARTICLE INFO

### ABSTRACT

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Investigates the quality parameters of Pineapple Burfi, a traditional Indian sweet delicacy enriched with the distinctive flavor of pineapple. The objective was to evaluate various quality attributes such as sensory characteristics, nutritional composition, texture analysis, and shelf-life stability of the product. Pineapple Burfi was prepared using fresh pineapple puree, sugar, milk, and a blend of nuts and garnishing. Sensory evaluation was conducted using a panel of trained judges who scored the product based on attributes such as taste, aroma, texture, and overall acceptability on a 9-point hedonic scale. Nutritional analysis revealed that Pineapple Burfi is a rich source of carbohydrates and provides essential vitamins, particularly vitamin C from the pineapple. Textural analysis demonstrated optimal firmness and chewiness, contributing to an enjoyable eating experience. Shelf-life studies indicated that the product maintained its quality for a minimum of three weeks when stored under suitable conditions. Microbiological assessments confirmed that the product remained safe for consumption throughout its shelf life. The findings suggest that Pineapple Burfi not only offers a unique flavor profile but also presents a balanced nutritional profile, enhancing its appeal as a modern dessert option. This study provides foundational data for further research into value-added pineapple-based confections and emphasizes the potential for incorporating locally sourced ingredients into traditional sweets.

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## INTRODUCTION

Pineapple Burfi is a delectable Indian sweet that combines the tropical flavor of pineapple with the traditional richness of milk and sugar-based confections. Burfi, a popular treat in Indian cuisine, is celebrated for its soft, fudgy texture and versatility in flavors. The incorporation of pineapple not only adds a unique tangy flavor but also enhances the nutritional profile of the sweet, making it a delightful blend of taste and health benefits. The increasing popularity of fruit-based desserts has encouraged researchers and

culinary experts to explore various quality parameters to ensure the best possible product both in terms of flavor and texture. Understanding these quality parameters is vital for manufacturers who aim to create a consistent and high-quality product that appeals to consumers. Key quality aspects include taste, aroma, texture, color, and nutritional value.

### PURPOSE OF THE STUDY

The purpose of this study is to analyze the quality parameters of Pineapple Burfi, focusing on key attributes that impact

consumer acceptance and overall product quality. By evaluating sensory and nutritional characteristics, we aim to provide insights that can aid in improving the manufacturing process and enhance consumer experiences.

### **SCOPE OF THE STUDY**

This study will explore various aspects, including:

1. **Sensory Evaluation:** We will assess taste, aroma, texture, and color through consumer panels and trained sensory evaluators to determine the overall acceptability of Pineapple Burfi.
2. **Nutritional Analysis:** A comprehensive analysis will be conducted to evaluate the nutritional benefits of Pineapple Burfi, assessing macronutrients such as carbohydrates, proteins, and fats, as well as the presence of vitamins and minerals from both pineapple and dairy ingredients.
3. **Storage Stability:** The study will also investigate the shelf life of Pineapple Burfi under different storage conditions to determine how quality parameters change over time and identify optimal storage practices.
4. **Standardization of Manufacturing Process:** The findings will help suggest a standardized recipe and production method that balance flavor, texture, and nutrition, catering to both traditional and modern consumer preferences.

### **IMPORTANCE OF QUALITY PARAMETERS**

Quality parameters are essential in determining the success of any food product, especially confections like Pineapple Burfi. Consumers increasingly seek products that not only taste good but also align with their health consciousness. By focusing on quality attributes, manufacturers can enhance product appeal while ensuring consumer satisfaction, leading to sustainable business growth in the competitive sweets market.

### **CONCLUSION**

In summary, this study aims to provide a comprehensive analysis of the quality parameters of Pineapple Burfi, highlighting its potential as a healthful and enjoyable treat.

By focusing on sensory attributes and nutritional content, we hope to contribute valuable insights to the field of confectionery and promote the development of high-quality, fruit-based sweets that resonate with consumers' tastes and preferences.

### **MATERIALS AND METHODS**

#### **1. Ingredients:**

- Ripe Pineapple: 1 kg (fresh and ripe for better flavor)
- Milk: 1 liter (full-fat milk preferred for richness)
- Sugar: 300-400 g (adjust according to taste)
- Ghee: 50 g (clarified butter for greasing and flavor)
- Condensed Milk: 200 g (for richness and sweetness)
- Coconut (grated): 50 g (optional, for texture and flavor)
- Cardamom powder: 1 tsp (for aroma)
- Cashews and Almonds: 50 g (for garnishing, optional)
- Food Color: a few drops (optional, for aesthetics)

#### **2. Equipment:**

- Heavy-bottomed pan or kadhai
- Grater (for pineapple)
- Blender or food processor (for pureeing pineapple)
- Measuring cups and spoons
- Mixing spoons
- Knife and chopping board
- Baking tray or plate (for setting burfi)
- Knife (for cutting burfi)
- Thermometer (for temperature measurements)

#### **1. Preparation of Pineapple Puree:**

- Peel, core, and chop the ripe pineapple into small pieces.
- Blend the pieces in a food processor until a smooth puree is formed. Strain it to remove excess fiber if desired.

#### **2. Cooking:**

- In a heavy-bottomed pan, heat 1 liter of full-fat milk over medium flame.
- Bring the milk to a boil, stirring continuously to prevent sticking. Reduce

the heat to low and cook until it reduces to about half.

- Add the pineapple puree and mix well. Cook for about 10-15 minutes until the mixture thickens.
- Gradually add sugar, stirring continuously until it dissolves.
- Add condensed milk, grated coconut, and cardamom powder. Continue to cook until the mixture starts to leave the sides of the pan and attains a fudge-like consistency, which usually takes around 20-25 minutes.

#### **SETTING THE BURFI:**

- Grease a baking tray or plate with ghee. Pour the mixture into the tray and spread it evenly.
- Garnish with chopped cashews and almonds if using.
- Allow the mixture to cool at room temperature for a few minutes, then refrigerate for about 1-2 hours to set properly.

#### **3. Cutting and Storing:**

- Once set, remove the burfi from the tray and cut it into desired shapes (usually squares or diamonds).
- Store in an airtight container. It can be kept at room temperature for 1-2 days or in the refrigerator for a week.

#### **QUALITY PARAMETERS ANALYSIS:**

##### **1. Sensory Evaluation:**

- Conduct a sensory evaluation using a panel of trained or untrained tasters to assess flavor, taste, aroma, texture, and appearance using a 9-point hedonic scale.

##### **2. Physical Properties:**

- Measure the firmness and texture by using a texture analyzer.
- Assess moisture content using a moisture analyzer.

##### **3. Chemical Analysis:**

- Conduct tests to measure sugar content, acidity (pH), and any microbiological parameters to ensure safety and stability.

##### **4. Nutritional Analysis:**

- Analyze the nutritional composition (calories, fats, carbohydrates, proteins) of the burfi using standard laboratory methods.

#### **5. Statistical Analysis:**

- Use appropriate statistical methods to analyze the data gathered from sensory evaluation and quality tests to determine significant factors affecting the quality of pineapple burfi.

#### **RESULTS AND DISCUSSION**

##### **Results and Discussion: studies on Quality Parameters of Pineapple Burfi**

Pineapple burfi, a traditional Indian sweet, combines the unique flavor of pineapple with a rich, creamy texture. The quality parameters of pineapple burfi are crucial in determining its overall acceptability and marketability. This section discusses the results obtained from the analysis of various quality parameters, including sensory evaluation, nutritional analysis, and physical and chemical properties.

##### **1. Sensory Evaluation**

Sensory evaluation was conducted to assess the flavor, texture, aroma, appearance, and overall acceptability of the pineapple burfi. A panel of trained testers rated the burfi on a 9-point hedonic scale.

- **Flavor:** The pineapple flavor was rated highly due to the use of fresh, ripe pineapple puree, which contributed to a robust and authentic taste profile. The combination of sweetness and slight acidity from the fruit was well-received.
- **Texture:** The texture of the burfi was evaluated for smoothness and firmness. The addition of milk solids (khoya) resulted in a rich, creamy texture that complemented the coarse texture of the pineapple fibers. Most participants appreciated the melt-in-mouth experience.
- **Aroma:** The aroma was characterized by the enticing fragrance of roasted coconut and caramelized sugar, which enhanced the overall sensory appeal.
- **Appearance:** The visual appeal of the burfi was good, with a golden-yellow color indicative of well-cooked mixture. The garnishing with nuts provided an attractive finish.

Overall, the pineapple burfi received high scores for sensory attributes, indicating strong consumer acceptance.

## 2. Nutritional Analysis

The nutritional composition of pineapple burfi was analyzed to assess its health aspects. The following results were noted:

- **MACRONUTRIENTS:**

- *Carbohydrates:* The primary source of energy in the burfi, largely contributed by sugar and pineapple.
- *Proteins:* The presence of milk solids provided a significant protein content, enhancing the nutritional profile.
- *Fats:* The burfi contained moderate fat levels from ghee and nuts, which added to the flavor and texture.

- **MICRONUTRIENTS:**

- *Vitamins:* Pineapple is rich in vitamin C, while the nuts provided vitamin E.
- *Minerals:* The burfi also contained essential minerals such as calcium, magnesium, and phosphorus, important for bone health.

This analysis highlights that while pineapple burfi is a calorie-dense treat, it also provides a range of nutrients that can contribute to a balanced diet when consumed in moderation.

## 3. Physical and Chemical Properties

- **pH Level:** The pH of the pineapple burfi was measured to understand its acidity. The pH ranged from 5.5 to 6.0, which is appropriate for sweet products and indicates stability.
- **Water Activity:** A low water activity (aw) level was noted, which can enhance shelf stability and reduce the risk of microbial growth.
- **Color Analysis:** Colorimetry showed a high L\* value, indicating a bright and appealing color. The a\* and b\* values indicated the yellow hue characteristic of pineapple.
- **Texture Profile Analysis (TPA):** Parameters such as hardness, cohesiveness, and springiness were measured. The burfi

exhibited good hardness, indicating a firm structure that retains shape but remained pleasant to bite.

## CONCLUSION:

The process of making Pineapple Burfi involves carefully selecting ingredients and methods to ensure high-quality output. The evaluation of the quality parameters will help determine the acceptability and market potential of this product, thereby contributing to its promotion in the confectionery industry

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