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RESEARCH ARTICLE

PREPARATION OF SESBANIA GRANDIFLORA COOKIE

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ABSTRACT

Agathi keerai is one of the spinach varieties which have many medicinal values. Normal intake of Agathi spinach is in the form of soups and fry. Our research is based on development of new product Agathi leaves cookies. It involves processing steps like drying, pulverization etc. Therefore, the product is completely nutritious. Our paper results in sensory evaluation of the product.

INTRODUCTION

Sesbania grandiflora is the botanical name of Agathi leaves of the family Fabaceae. It is also known as august tree leaves or humming bird tree leaves. There are two varieties of Agathi leaves. One variety has white flower and the other one has red flower called as red august tree leaves. The common variety is white flower august tree leaves. The tree grows up to 30ft tall. It is advisable to consume Agathi leaves 2 to 3 times in a month. It has high content of calcium, minerals, Iron & vitamin A. It has bitter taste but bunch of medicinal values. It also cures Night blindness, Arthritis, Indigestion, constipation, ulcer, etc. Agathi leaves acts as anti-oxidants. Bakery products like biscuits and cookies contain significant amount of flours which are mixed with various other ingredients and ultimately undergo dry-heating process in a baking oven. Majority of bakery products are high in carbohydrate, fat, calories, but low in fiber content. Therefore, manipulating the ingredients used in bakery products with potentially nutritive ones like Agathi leaves, wheat flour and palm jaggery would be beneficial to improve the nutritional quality of baked product. Our product is mainly preferable for women during lactation. When Agathi leaves are combined with the above ingredients; it increases the nutritional value which is very beneficial.

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MATERIALS AND METHODS

Product ingredients

- Wheat flour
- Agathi leaves
- Palm jaggery
- Refined wheat flour
- Butter
- Salt
- Baking powder

Apparatus used

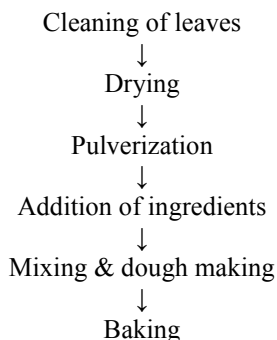
- OTG oven (Oven Toaster Griller)
- Hot air oven
- Food processor

Nutritional values in agathi leaves

Nutrients	Amount
Fiber	1.9 g
Fat	1.3 g
Calories	93 K cal
Moisture	74.5 g
Protein	7.5 g
Calcium	120 mg
Phosphorus	80 mg
Iron	4 mg
Vitamin C	165 mg
Carbohydrates	12 g
Minerals	3.4 g
B complex	Less

Process flowchart

The Agathi leaves are initially removed from the stem and washed with potable water to remove dust, foreign particles etc. It is then dried in hot air oven at 60°C to remove moisture from the leaves. The dried leaves are pulverized in food processor. The Other ingredients are wheat flour, refined wheat flour, palm jaggery, butter, salt, baking powder were measured and taken. The powdered Agathi leaves were also measured and mixed with the other ingredients. It is made as dough and it is shaped as required with the help of moulds. It is then baked in OTG oven at 180°C for 20 minutes.



Cleaning of leaves

Agathi leaves are cleaned to remove dust particles and foreign matters. Then it is washed with portable water.

Drying

The leaves are dried in hot air oven at a temperature of 60°C for 45 minutes. The drying characteristic of leaves is Checked at interval of 15 minutes.



Fig.1. Dried leaves

Pulverization

The dried leaves are pulverized into fine powder using food processor.

Mixing & dough making

Butter and sugar were mixed until creamy using hand mixer. Next wheat flour, refined wheat flour, powdered leaves,

baking powder, salt was put into mixture of butter and sugar. They were uniformly mixed to obtain consistent dough. The dough was rolled and cut into desired shapes.



Fig.2. Mixing

Baking

The cookies are baked at 180°C in OTG oven for 20 minutes.



Fig. 3. Cookies

RESULTS AND DISCUSSION

A. Shelf life estimation

The cookie is stored in a stainless steel container at a room temperature of 35°C. A sample of one biscuit was taken and tested in an interval of 2,4,6,8 days. The texture also was not altered. Hence the shelf-life of this cookie is 6-7 days at room temperature & 1-2 months in refrigerated condition.

B. Over all acceptability

Fig.4 represents the sensory properties of the Agathi leaves cookies. In general taste and overall acceptability has maximum score 8-9. Hence the Agathi leaf cookie is accepted overall in every aspect. Fig.4 sensory evaluation of Agathi keerai cookies Sensory evaluation of the product were discussed which represents the taste, aroma, appearance, texture. Taste and overall acceptability were compared and the result is given in the graph.

Conclusion

The preparation of new product (cookie) from the Agathi leaves was studied. It was observed that Agathi green leaves with many medicinal properties and hence proper processing of Agathi leaves leads to development of the product with great deal of health benefits. This organic product helps in treatment of indigestion, lactation, constipation etc. An amount of 40g can be consumed by all age groups on a daily basis to maintain a good health.

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