

DEVELOPMENT AND QUALITY EVALUATION OF RAGI POWDER INCORPORATED NANKHATAI

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ABSTRACT

Ragi Nankhatai was developed by Ragi flour, Wheat flour, Sugar, Skim milk powder, Baking powder, Ghee, Cardamom, Nutmeg is mix and then baked at 170⁰C for 25 minutes. The ragi flour was incorporated in wheat flour at different ratios as (5gm), (10 gm), (15gm). Nankhatai is a long shelf life item, and they must be acceptable to the consumer for up to four months or more. In that, the chemical analysis was carried out which contain good sources of vitamin and mineral also found a higher amount of carbohydrates and fat. Nankhatai is most commonly baked until crisp or just long enough that they remain soft. The product was analysed with sensory, physio-chemical and texture attributes. As per the sensory analysis, chemical analysis 10 gm ragi flour incorporated with 90 gm wheat flour was good in, colour, flavour, taste and texture as well as rich in nutritional value. The product was packed in LDPE.

Keywords: *ragi nankhatai, shelf life, Physico-chemical analysis, sensory analysis,*

INTRODUCTION

A Nankhatai can be defined as a round, dome-shaped baked dessert. It is usually also known as a type of cookies. However, in certain parts of the world, Nankhatai and cookies are the same things – but in India, Nankhatai is a plain, soft and delicious traditional baking product.

Nankhatai is most commonly baked

until crisp or just long enough that they remain soft. Nankhatai is made in a wide assortment of styles, using an array of ingredients including sugars, cereals, chocolate, butter, peanut butter, nuts or dried fruits.

The softness of the Nankhatai depends on how long it has been baked. Fats and oils

are used for several different parts of baked products. The functionality and

requirements are different for each application and will be discussed separately.

This is an attribute of the oil phase, and a liquid oil shortening should give good results when used at about 75% of the amount of plastic fat in the formula. Nankhatai is a long shelf life item, and they must be acceptable to the consumer for up to six months or more. If the oil is used in the dough, it should have good oxidative stability, so rancidity does not develop in the product during storage. Wafer batter does not ordinarily contain fat or oil. However, on occasion a small amount of oil is included in the batter, to facilitate the release of the baked wafer from the griddle. The amount used is just enough to affect release (perhaps 0.5% of total batter weight). Oil with high oxidative stability would give the best lubrication in this application.

Ragi (*Elusine coracana*)

It is also called as finger millet. Finger millet (Ragi) is one of the most nutritious crops among the major cereal crops. In India, 25% production of Ragi overall food grain production. Ragi is the radish mustered like grain is

harvested during December and January. India and South Africa are leading countries in the cultivation of Ragi. Karnataka (1630MT) and Tamilnadu is a higher cultivation state; in Maharashtra (161MT) production of Ragi.

Finger millet is especially valuable as it contains the amino acid methionine, which is lacking in the diets of hundreds of millions of the poor who live on starchy staples such as cassava, plantain, polished rice, or maize meal. Finger millet can be ground and cooked into cakes, pudding or porridge. The grain is made into a fermented drink (or Beer) in Nepal and many parts of Africa. The straw from finger millet is used as animal fodder. It is also used as a flavoured drink in festivals.

In the northwest of finger millet Vietnam, finger millet is used as a medicine for women when they give birth. A minority used finger millet flour to make alcohol (bacha alcohol is a good drink of the among minority).

In southern parts of India, paediatricians recommend finger – millet-based food for infants of six

months and above because of its high nutritional content, especially calcium. Homemade Ragi malt happens to be one of the most popular infant's foods even to this day.

It has May applications such as bread, biscuit, malt, beverages and roti making. In recent year, finger millet has gained importance, because it's nutritional strength in terms of dietary

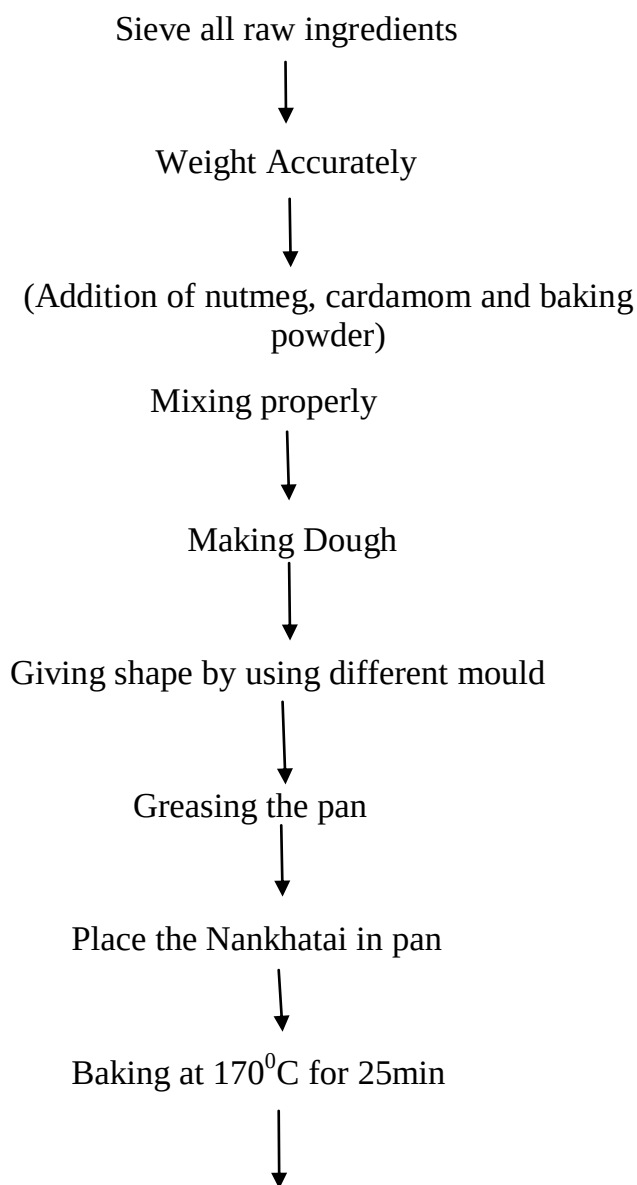
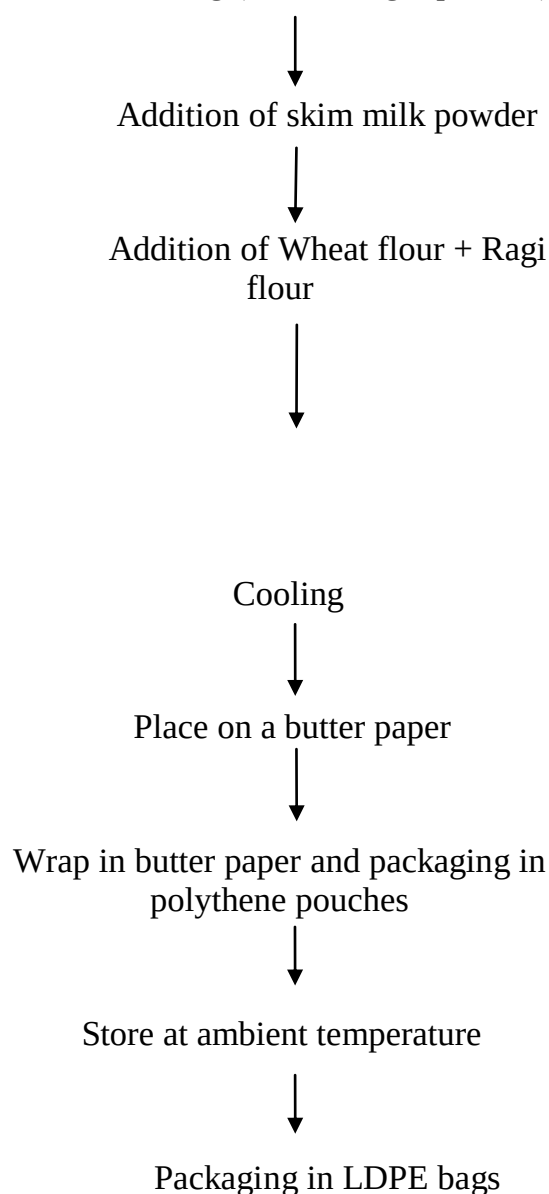
fibre, functional fibre, starch pattern, as well as high calcium and iron contents. (Balkrishana Rao et al.1973). The nutritive value is higher than rice and equal to wheat (Joshi A.2002).

Eating of roasted Ragi is a tonic for high blood pressure, liver diseases, nervousness, heart, weakness, asthma and pregnancy.

MATERIALS AND METHOD

Treatment table

Ingredients Treatment	T ₀	T ₁	T ₂	T ₃
Wheat flour	100gm	95 gm	90 gm	85 gm
Ragi flour	-	5 gm	10 gm	15 gm
Shortening	70 gm	70 gm	70 gm	70 gm
Sugar	60 gm	60 gm	60 gm	60gm
Baking powder	1 gm	1 gm	1 gm	1 gm
Milk powder	10 gm	10 gm	10 gm	10 gm

Procedure**Flowsheet for preparation of Ragi Nankhatai****Make Icing (Ghee+ Sugar powder)**

Take all raw ingredients and sieve it properly. Weigh all ingredients accurately. Make the icing by using ghee and sugar, up to the cream formation. Addition of skim milk powder and mix properly. Addition of wheat flour and Ragi flour, add flavouring agents such as nutmeg, cardamom and baking powder. Mixing properly all ingredients and making into the dough. Giving proper shape to the dough by using a mould and place it on greased pan. Place the pan in an oven for baking at 170 °C for 25 min. After baking cool it and place on butter paper. Wrap the Nankhatai in butter paper and packing into polythene pouches. Stored at ambient temperature.

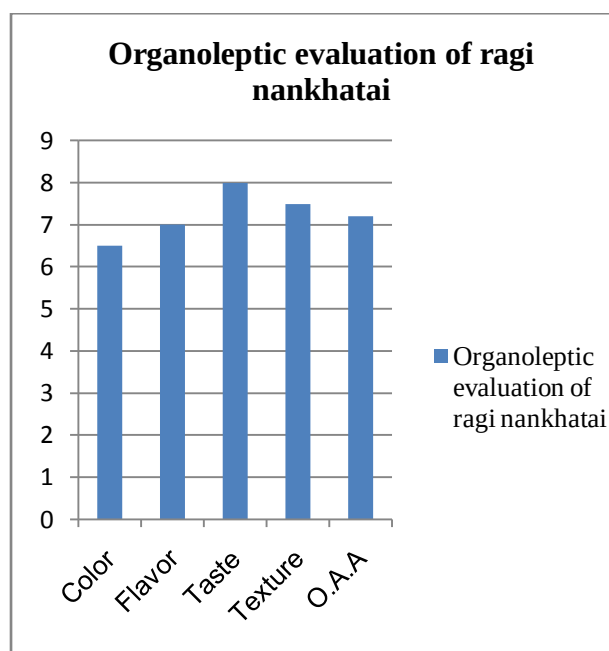
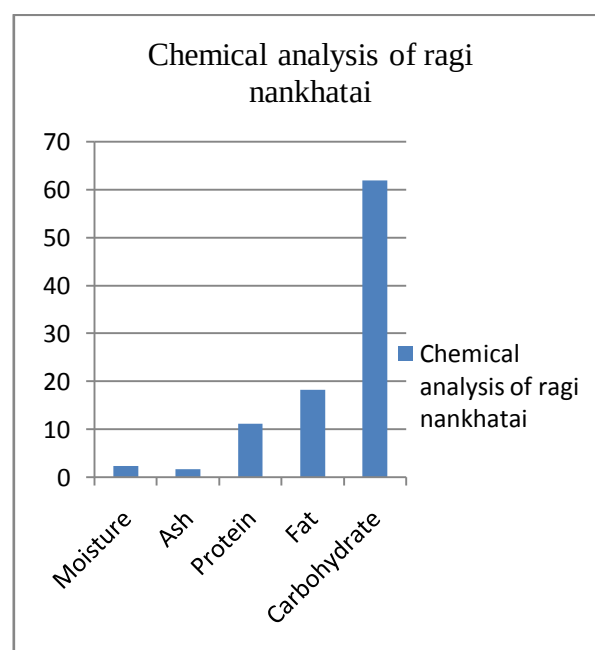
RESULT AND DISCUSSION**Sensory Evaluation of Ragi Nankhatai**

Characteristics Treatment	Rating
Colour	6.5
Flavour	7
Taste	8
Texture	7.5
Overall acceptability	7.2

The data present in the table indicate that the average rating for colour, flavour, taste and texture were found to us 8, 7, 8 and 8 respectively. It shows that the overall acceptability of the prepared Ragi, Nankhatai was 8.

Chemical Analysis of prepared Ragi Nankhatai

Nutrients (%)	Prepared Ragi Nankhatai
Moisture	2.45
Ash	1.75
protein	11.2
Fat	18.3
Carbohydrate	62

Graphical Representation of Ragi Nankhatai.**Graphical Representation of Ragi Nankhatai.**

It can be shown that the prepared Ragi Nankhatai is to be nutritionally valuable due to the large number of minerals and carbohydrates present in the Ragi. So it has high nutritional value.

CONCLUSION:

The Nankhatai was prepared by using the Ragi. The prepared Ragi Nankhatai has good texture, colour and taste. In the prepared Ragi Nankhatai the carbohydrates were found to be higher.

In the conclusion, we can say that age Nankhatai having a satisfactory

acceptable taste, texture and colour without effect on aroma and flavour can be prepared with incorporate of In case of 10 per cent Ragi flour and 90 per cent wheat flour incorporation is the best ones it has high nutritional value it was majorly accepted by the consumer.

From the result of the present investigation, it was concluded that the Ragi Nankhatai was prepared from different levels of minerals and Vitamins content

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