### QUALITY AND ACCEPTABILITY OF Artocarpus heterophyllus JACKFRUIT COOKIES

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# Rationale

Jackfruit (Artocarpus heterophyllus) is a tropical oval shaped fruit, acclaimed to be the largest of all fruits, can be as heavy as 7-10 kgs and as long as two feet and one foot in diameter. The rind is hard and spiny, from green to yellow green upon ripening. The interior consists of large bulbs of pulp enclosing a seed up to 1 inch long, with 100 to 500 seeds per fruit.







• The flesh or pulp is soft and yellow covering individual edible seeds, starchy that can be boiled and peeled. Fully ripened jackfruit has a distinctive smell and flavor and is rich in vitamin C, carotenoids, and fiber. Filipino word is "langka". The seeds are roasted or boiled and eaten like chestnuts (*Ruiz*) and Ama, 2006).







Jackfruit is quiet abundant in our country as a result, its seeds are just scattered and not use for other matters aside from it can be planted again for another Jackfruit tree. Flour is a very important ingredient for every pastry we eat. But because of its high price, people don't buy or refuse to buy food that contains flour as one of its ingredient. Instead of scattering the jackfruit seeds, we may use it as a source of flour (Jhoanna Grace, 2008).







• The jackfruit seeds flour may also be blended with wheat flour to explore the potential of low cost flour from jackfruit seed as an alternative raw material for bakery and confectionery products (*Chowdhury et al.*, 2012).







Cookie is a sweet baked food that is usually small, flat, and round and is made from flour (Merriam-*Webster.com*). Cookie production using jackfruit seeds will help to increase the nutritional value of jackfruit seed-wheat based products as well as help to reduce the importation rate of wheat into the country.







• This study however, was carried out to determine the quality and acceptability of jackfruit seed cookies and to make a new and nutritious cookie product out of jackfruit seeds.

#### **Objectives of the Study**



1. Develop cookies utilizing jackfruit seeds .

2. Determine the quality of cookies with 50%, 75% and 100% jackfruit seeds to the taster respondents along the following:

- 2.1. appearance,
- 2.2. color,
- 2.3. texture,
- 2.4. aroma,
- 2.5. taste



3. Determine the significant differences in the acceptability of different treatments.





## Methodology

#### Materials

- The materials used in cooking the jackfruit seed cookies are as follows:
- Oven
- Grinder
- Mixing Bowl
- Sifter
- Measuring Cups

Baking Sheet Measuring Spoons Aluminum Tray Mortar and pestle Labels



# Ingredients

INGREDIENTS	MEASUREMENTS
Jackfruit flour	<b>1-</b> <sup>1</sup> / <sub>2</sub> cup
Butter	<sup>1</sup> / <sub>2</sub> cup
Egg	1 piece (small)
Brown Sugar	<sup>1</sup> / <sub>2</sub> cup
Vanilla	1 tbsp.
Baking soda	<sup>1</sup> / <sub>2</sub> tsp.
Salt	1 pinch

### Ingredients of Jackfruit Cookies











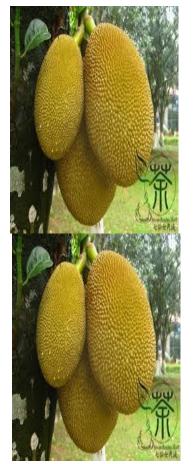












# **Different Treatments**

- T0 (100% Commercial APF)
- T1 (100% Jackfruit Seed Flour)
- T2 (75% Jackfruit Seed Flour)
- T3 (50% Jackfruit Seed Flour)

### Process Flow of Jackfruít Cookíes









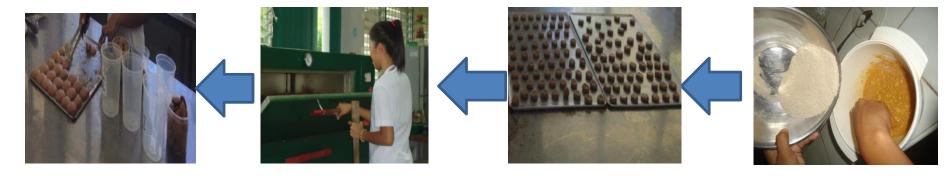
DRYING

PEELING

CRACKING

GRINDING





PACKING

BAKING

MOULDING





## **GATHERING DATA**

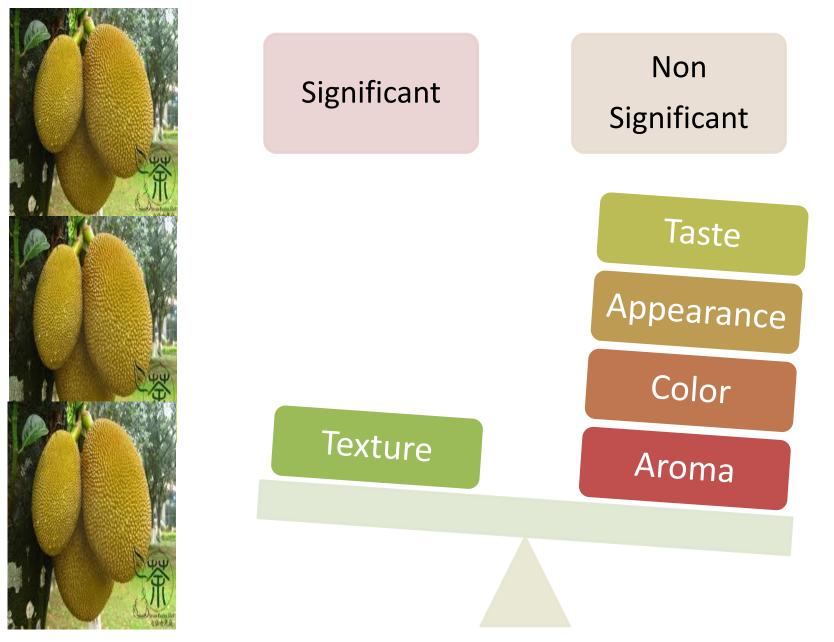
A sensory evaluation was conducted by a sensory panel of 50 members to determine the general acceptability and quality of jackfruit seeds cookies with different levels of jackfruit seed flour in terms of appearance, texture, taste, aroma and overall acceptability. The coded samples were presented to each panel in random order. Score cards were designed for evaluation. The hedonic scale was used to determine the general acceptability of the products.



#### **Statistical Tools Used**



#### **RESEARCH HIGHLIGHTS**





#### A.Quality

For quality evaluation, T2 (75% jackfruit seed flour) got the highest mean that is described as "best" along appearance, texture and taste while "very good" along color and aroma. T1 (100% jackfruit seed flour) got the second highest mean that is described as "best" along taste and "very good" along appearance, color, texture and aroma. TO (100% commercial APF) got the lowest mean that is described as "very good" along appearance, color, aroma and taste while "good" along texture. No significant differences exist on the evaluation of appearance, color, aroma, and taste but significant on the evaluation of texture.



#### **B.** Acceptability

• For acceptability evaluation, T1 (100% jackfruit seed flour) and T2 (75% jackfruit seeds flour) got the highest mean that is described as "like extremely", T3 (50% jackfruit seed flour) got the second highest mean that is described as "like very much" and T0 (100% commercial APF) got the lowest mean that is described as "like moderately".



## Conclusions

- Based from the findings of the study, the following conclusions were made:
- 1. In quality evaluation, T2 (75% jackfruit seed flour) is best preferred in terms of appearance, texture and taste by the evaluators.

• 2. In acceptability evaluation, T1 (100% jackfruit seed flour) and T2 (75% jackfruit seed flour) is best preferred by the evaluators.



# Recommendations

- 1. Standardization of jackfruit seed cookies and include shelf life testing.
- 2. Exploration of other product lines from jackfruit seeds.
- 3. Determination of nutrient content of the developed cookies from jackfruit seeds.
- 4. Identification of appropriate packaging and labelling for the developed product.





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