
THE EFFECT OF BREAWEF FLOUR SUBSTITUTION (ARTOCARPUS ALTILIS FOSBERG) ON SNOW PRINCESS CAKE ON SENSORY QUALITY

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ABSTRACT:

Breadfruit flour is used as a substitute ingredient in making Snow White cake to optimize the use of local food ingredients. This study aims to analyze the effect of substitution of breadfruit flour in the manufacture of Snow White cake on sensory quality. This research was conducted at the Food Processing Laboratory, Culinary Education Study Program, Jakarta State University. The method used in this research is the experimental method. The research sample used was snow white cake with breadfruit flour substitution of 10%, 15% and 20%. Then it was tested on 5 expert panelists who assessed aspects of color, aroma, taste and texture. The conclusion of this study is that the breadfruit flour substitution snow white cake has a good sensory quality of 10% to be developed.

Keywords: snow white cake, breadfruit flour, sensory quality.

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INTRODUCTION

Breadfruit (*Artocarpus Altilis Fosberg*) is a coral plant that has been known for centuries in the archipelago (Huebert & Allen, 2016). Breadfruit plants originate from Pacific New Guinea and grow to Indonesia. Breadfruit can grow in land near

the coast (0 meters sea level) or in the mountains (100 meters above sea level (Febriani et al., 2013). Breadfruit has long been used as food, people usually use it as traditional food and snacks. How to use it by boiled, fried or baked, or cooked like potatoes. Apart from being used directly,

breadfruit can be used as a processed product, namely breadfruit flour.

Breadfruit flour is produced from breadfruit that has previously gone through the process of peeling, washing, soaking, grating, drying, grinding, sifting and packaging. Breadfruit flour contains amylose ranging from 20-30%/100 g and amylopectin 70-80%/100 g (Saepudin et al., 2017). 100 g of wheat flour contains 28% amylose and 72% amylopectin (Pradipta & Putri, 2015). The high amylopectin content will produce light, crisp and crunchy food products (Pradipta & Putri, 2015). The content contained in the two flours is closely related to the texture that will be produced. One of the products that can be applied is snow white cake (Hussain et al., 2023).

Araki (2016) in his research explaining, The amylose content of rice flour affects the quality of bread, including its shape and hardness. Rice flour with an amylose content of 16% to 20% forms a chewy and slightly soft loaf. When rice flour with low broken starch content (less than 5%) and desired amylose content (16% to 20%) is used, the production of gluten-containing rice flour bread is easy without differing from the method of making wheat flour bread.

Snow white cake is one of the pastries which is popular during big day celebrations. Some sources state that the first snow white cake appeared in Sweden in the 18th century and is referred to as "Swedish Butter Balls" or "Viennese Sugar Balls". The cake is made from a mixture of

butter, sugar, wheat flour and roasted peanuts and then sprinkled with powdered sugar (Shimoni, 2019). The hallmark of the Snow White cake is pastries covered with powdered sugar.

In this study, the use of breadfruit flour as a substitution ingredient in making Snow White Cake aims to optimize the use of local food ingredients. The use of breadfruit flour in Indonesia has not been utilized optimally by the community, so researchers are interested in processing breadfruit flour into snow white cake products. The use of breadfruit flour as a substitute ingredient in making Snow White cake is expected to produce color, aroma, taste and texture that have good sensory quality. Based on this description, a study was conducted on the effect of breadfruit flour substitution (*Artocarpus Altilis* Fosberg) on the sensory quality of Snow White cake.

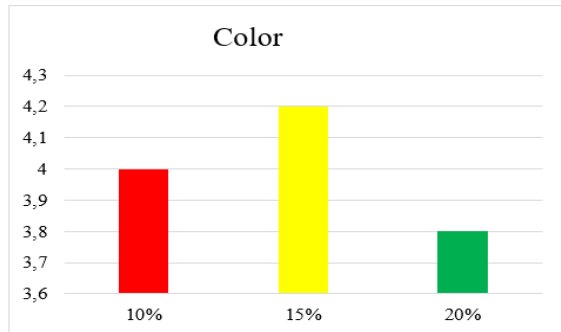
RESEARCH METHODS

This research was conducted at the Processing Laboratory of the Culinary Education Study Program, Jakarta State University (Yunierlita et al., 2023). The method used in this research is the experimental method. In this study, a sensory quality test was conducted to determine and analyze the effect of breadfruit flour substitution on sensory quality snow white cake which includes aspects of color, aroma, taste and texture with 3 (three) different percentages of breadfruit flour substitution, namely 10%,

15% and 20%. The panelists in this study were 5 (five) expert panelists.

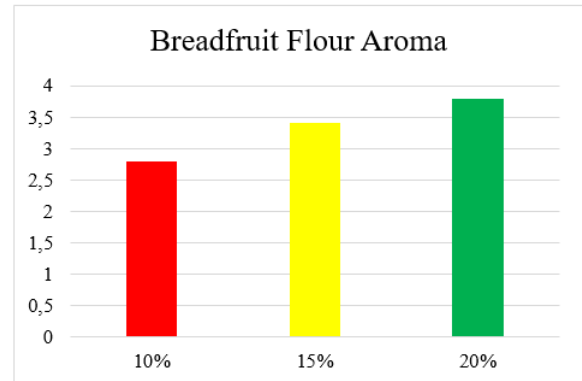
RESULTS AND DISCUSSION

A. Assessment of Color Aspects of Snow White Cake Substitute Breadfruit Flour



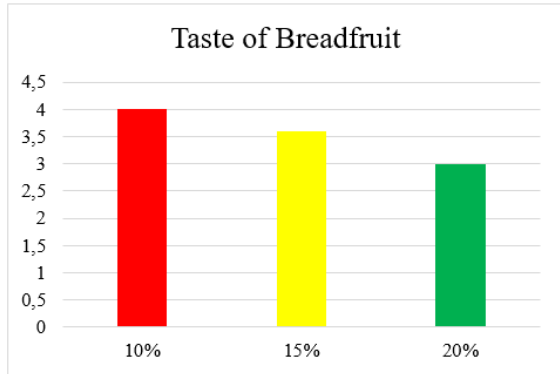
Based on the expert panelist's assessment, the average score was obtained for the color aspect of the snow white cake with treatments of 10%, 15% and 20%, namely 4 in the brownish yellow assessment category. The highest average value is Snow White cake with a treatment of 15% with a score of 4.2. This is because breadfruit flour has a distinctive color that is slightly brownish, because it is influenced by the color of fresh breadfruit and also the color of dried breadfruit which has undergone a browning reaction due to drying. This happens because of the polyphenolic enzymes contained in breadfruit. These enzymes can cause reactions *browning* until the color change occurs in breadfruit, so the color of breadfruit flour is relatively darker compared to high protein wheat eggplant (Panghal et al., 2018).

B. Assessment of Aroma Aspects of Snow White Cake Substituted Breadfruit Flour



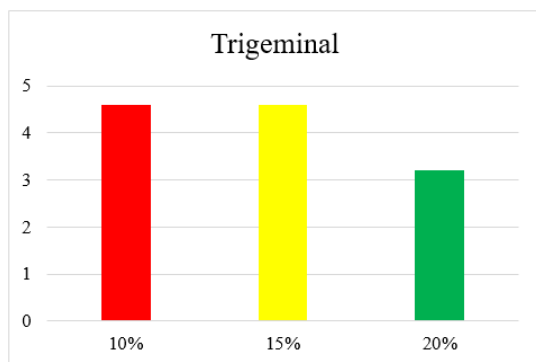
Based on the assessment of the expert panelists, the average score for the aroma aspect of the snow white cake was 10%, namely 2.8 with a fairly breadfruit-scented rating category, 15% snow white cake, namely 3.4 with a sufficient breadfruit flavored assessment category, and snow white cake 20 % is 3.8 with the category of breadfruit flavored assessment. This is because according to research conducted by Murni & Herawati, (2014) states that the more breadfruit flour added tends to produce a strong, distinctive aroma of breadfruit. The aroma produced from a material usually comes from the natural properties of the material and the additional ingredients used.

C. Assessment of Breadfruit Taste Aspects of Snow White Cake Substitute Breadfruit Flour



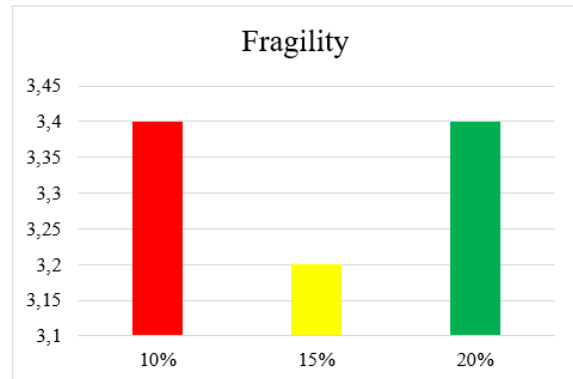
Based on the assessment of the expert panelists, the average score was obtained for the taste aspect, namely the snow white cake 10%, namely 4 with the category of taste of breadfruit, 15% of snow white cake, namely 3.6 with the category of taste of breadfruit and snow white cake 20%, namely 3 with assessment category feels very breadfruit. This is because according to research conducted by (Novrini, 2020) states that the more breadfruit flour is used, the stronger the taste of breadfruit flour, because breadfruit flour has a distinctive taste so that the breadfruit flour flavor predominates in pastries.

D. Assessment of Trigeminal Aspects of Snow White Cake Substitute Breadfruit Flour



Based on the assessment of the expert panelists, the average score on the trigeminal aspect was 10% and 15%, namely 4.6 in the category of very not bitter and 20%, namely 3.2 in the category of very slightly bitter. This is because breadfruit flour gives a slightly bitter or bitter taste due to the bitter taste contained in the breadfruit flour. The compound that causes a bitter taste is the tannin content in breadfruit. Tannins are polyphenolic compounds that give a bitter taste to food, the concentration of tannins in food varies, depending on the type of plant, the condition of the plant and the processing method used.

E. Fragility Texture



Based on the assessment of expert panelists, the average scores on the fragility aspect of snow white cake treatment were 10% and 20%, namely 3.4 with fragile assessment category, 15% treatment was 3.2 with fragile assessment category/ The highest average value was snow white cake treatment 10% and 20%. This is because breadfruit flour contains amylose ranging from 20-30% / 100 g and amylopectin 70-

80% / 100 g (Arawande & Ashogbon, 2019). At 100 g of wheat flour contains amylose by 28% and amylopectin 72% (Giuberti et al., 2021). Both flours have the same content with different amounts. High amylopectin content will produce food products that are light, crumbly, crisp and crispy (Setyadjit et al., 2018).

CONCLUSION

The test results on the sensory quality of snow white cake on the color aspect, namely snow white cake with 15% breadfruit flour substitution, aroma aspect, namely snow white cake with 20% breadfruit flour substitution, breadfruit taste aspect, namely snow white cake with 10% breadfruit flour substitution, aspects trigeminal namely snow white cake with 10% and 15% breadfruit flour substitution, the fragility aspect is snow white cake with 10% and 20% breadfruit flour substitution. The conclusion in this research is snow white cake with breadfruit flour substitution of 10% has good quality and optimizing the use of breadfruit flour as a local food ingredient.

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