



Substitution of Boiled Purple Sweet Potato in Making Purple Doughnut

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Abstract

This paper is the outcome of food products from entrepreneurship lessons. This part becomes fascinating because the essential ingredients of doughnuts are made from purple sweet potato, which substitutes wheat flour. Purple sweet potato provides health benefits. The method is qualitative with an organoleptic test approach for purple doughnut products and a SWOT test to evaluate the product before it is marketed. The availability of raw materials is the strength of this doughnut product. The organoleptic test assessment stands out in the doughnut colour and texture category with a preference level of 95.44% and 90.9%, respectively. This innovation produces doughnuts with the preferred purple filling colour.

Abstrak

Penelitian ini merupakan hasil akhir produk makanan dari pelajaran kewirausahaan. Bagian ini menjadi menarik karena bahan dasar donat terbuat dari ubi ungu pengganti tepung terigu. Ubi jalar ungu memberikan manfaat kesehatan. Metode yang digunakan adalah kualitatif dengan pendekatan uji organoleptik produk donat ungu dan uji SWOT untuk mengevaluasi produk sebelum dipasarkan. Ketersediaan bahan baku menjadi kekuatan dari produk donat ini. Penilaian uji organoleptik menonjol pada kategori warna dan tekstur donat dengan tingkat kesukaan masing-masing sebesar 95,44% dan 90,9%. Inovasi ini menghasilkan donat dengan warna isian ungu yang disukai.

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Kata-kata Kunci

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1. Introduction

Entrepreneurship is a creative and innovative ability, keen to see opportunities and always open to any positive inputs and changes that can bring the business to continue to grow. Businesses should have value and be useful where this can be done through the application of the concept of social entrepreneurship. Various groups began to discuss the concept of social entrepreneurship as an innovative solution in solving social problems. The purpose of social entrepreneurship is the realization of social change for the better or positive and solving social problems for the benefit of society [1].

Those who become entrepreneurs are people who recognize potential and learn to develop it to seize opportunities and organize businesses in realizing their goals.

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Entrepreneurship is a creative and innovative ability, keen to see opportunities and always open to any positive input and changes that can bring the business to continue to grow and have value. One of the drivers of innovation besides change and the need to adapt is the awareness of the gap between what is and what should be, and between what the community wants and what the government has offered or done. [2]

This article discusses about purple sweet potatoes. Purple sweet potatoes are one kind of sweet potatoes. At least there are 4 kind of sweet potatoes – purple, yellow, red and white. Ji and his partner wrote that purple sweet potatoes have much higher nutrient contents than others [3]. Purple sweet potatoes containing more anthocyanin [3][4][5]. This nutrient was studied against several health condition like cancer [6], obesity and inflammation [7], oxidative stress [8] etc.

2. Methods

This research uses the method of making doughnuts made from purple sweet potato tubers. Purple sweet potato that is boiled and mixed with a bit of flour in making doughnuts. Organoleptic test of doughnut products. Twenty-two respondents perform organoleptic tests.[9], [10] Product evaluation is presented, and a SWOT test is made to determine strengths, weaknesses, opportunities and threats through the responses of group members and other groups providing advice and criticism. Good criticism can develop the purple sweet potato doughnut product to be better after the evaluation process of all respondents. [11]

3. Result and Discussion

3.1. How to Make Violet Doughnut



Figure 1. Prepare the ingredients for making purple sweet potato doughnut

This is all the ingredients needed in this project. 850 grams of flour, 1 kg of purple sweet potato, 2 chicken eggs (yolk), 85-100 ml of liquid milk, 11 grams of instant yeast, 20 grams of margarine, 5 grams of salt, 20 grams of sugar, 1 liter of cooking oil.

Next, we clean the purple sweet potato until clean. Then boil the sweet potato tubers until cooked and soft. Boiled purple sweet potatoes are allowed to cool and then peel off the skin so that what remains is boiled tuber flesh. Puree the steamed potato. And another place, prepare a container and then fill it with flour. Mix the eggs, sugar,

instant yeast, margarine, and salt into the flour. Once mixed, pour in the milk and stir (Fig. 2).



Figure 2. Mix all the dough evenly

Put the purple sweet potato that has been mashed into the dough. Stir evenly so that the flour mixture and the boiled purple sweet potato mixture are evenly distributed. Use plastic gloves to squeeze and stir until evenly distributed. After the dough is even, let stand for half an hour until it expands.



Figure 3. Violet donut dough that has been evenly distributed and allowed to ferment

After the dough rises, the dough is shaped like a doughnut. Then put it in hot oil ($\pm 800\text{ml}$; medium fire). If the bottom is browned, immediately turn over. If the other side is already browned, lift it. Next served. Purple doughnuts can be smeared on top of sugar to give an attractive white colour.



Figure 4. Final result Violet Donut

3.2. SWOT Analysis: Business Opportunity Analysis Violet Doughnut

3.2.1. Strengths

- Easy to market
- Typical product taste
- Cheap or affordable product prices
- Innovative taste that is different from other products
- Unique taste, with unique and healthy ingredients, widely available
- The taste is acceptable in all circles
- Marketing through social media can reach consumers more broadly

3.2.2. Weaknesses

- There is a loss due to damaged materials
- Unstable raw material prices
- Limited quality materials
- Lack of marketing experience
- Limited asset

3.2.3. Opportunities

- Many parents or children like soft doughnut
- Easy distribution process
- People who are now smarter and more modern are more concerned with product quality than low prices
- The style or trend of modern society that does not want to be out of date to try or buy something
- Donut products are widely known to the public, and can be enjoyed by all people
- Affordable price

3.2.3. Threats

- There are competitors who make other types of doughnuts at the same price
- Many competitors in the same field
- There are price competitors
- Likely product will be imitated
- Many similar culinary producers

Table 1. Result of the Violet Donut Taste Test by 22 Panellist

Indicator	Organoleptic test				
	Taste	Flavour	Texture	Colour	Whole
unlike	0	0	0	0	0
Somewhat like	6 (27,27%)	8 (36,36%)	2 (9,09%)	1 (4,54%)	0
Like	12 (54,54%)	13 (59,09%)	12 (54,54%)	12 (54,54%)	17 (77,27%)
Very like	4 (18,18%)	1 (4,54%)	8 (36,36%)	9 (40,90%)	5 (22,27%)

3.3. Evaluation and Criticism

3.3.1. Criticism of the Violet Doughnut.

1. Too oily

2. Taste like regular fried bread

The Evaluation for First Critic:

1. Using medium heat, and fry the doughnut when the oil is already hot.

2. Lift and drain the doughnut, place in a container that has been lined with paper towels.

The Evaluation for Second Critic:

1. Precise Material mixing technique.
2. Fermentation Process for Dough Swelling (Dough fermentation process lasts for 15 to 30 minutes. During this time, rest the donut dough in a plastic covered container.

Table 2. Details of Trial Fund until Sale

Tools and Materials	Price (IDR)	Quantity	Total
Wheat Flour	6.660/kg	3 kg	20.000
Cooking Oil	18.000/L	2 L	36.000
Yeast Powder	5.000/pack	2 packs	10.000
Salt	2.000/pack	1 pack	2.000
Sugar	13.000/pack	1 pack	13.000
Refined Sugar	12.000/pack	1 pack	12.000
Milk	15.000/bottle	2 bottles	30.000
Messes	11.000/pack	3 packs	33.000
Plastic	6.000/pack	1 pack	6.000
Purple Sweet Potato	15.000/kg	3 kg	45.000
Gloves	9.000/pack	1 pack	9.000
Eggs	2.250/item	8 items	18.000
Margarine	10.000/pack	1 pack	10.000

Table 3. Details of Funds Used in the Manufacturing of Violet Doughnut for Sale and Profit on Sales

Tools and Materials	Quantity of Materials Used	Price of Materials Used (IDR)	Description
Purple Sweet Potato	1 kg	5.000	In the details of this fund, it contains the total expenditure in one manufacture, which has been divided according to the use of ingredients. The total number of doughnuts made in one production is 75 doughnut x 2.500 = 187.500 - 69.000 = 118.500.
Yeast Powder	1 pack (11g)	5.000	
Eggs	2 packs	4.500	
Milk	100 ml	7.500	
Margarine	20 g	1.000	
Sugar	20 g	1.000	
Refined Sugar/ Messes	1 bks	12.000	
Wheat Flour	850 g	5.000	
Cooking Oil	1 L	18.000	
TOTAL			
Spending=Rp 69.000; Income=Rp 189.000			

Advantage discussion:

1. From the analysis we did, it can be concluded that the profit we can get from selling Violet Doughnut reaches 2x the asset we spend. With a marketing price that is quite affordable compared to other doughnut, which is only 2.500/pcs. So, 75 doughnut x 2.500/donut = 187.500 – 69.000 (asset) = 118.500 profit.

2. Not only in terms of profit funds. But through this effort we can also save time and energy. Because the manufacturing process can be said to be easy to do, and the equipment used only uses simple home cooking utensils, so of course you have at home.

3. And in terms of health. These doughnuts can be classified as healthy but delicious, and interesting foods.

4. The combination of wheat flour and boiled purple sweet potato dough gives a compact dough. Wheat starch has good compatibility with purple sweet potato starch..[12].

4. Conclusions

Substitution of boiled purple sweet potato as a substitute Some wheat flour in making doughnuts gives good results. Overall, doughnuts give a favourable rating. Thus, further research is more specific to see the biochemical composition of food and bioactive in the product. The innovation of purple sweet potato tubers as ingredients for making doughnuts pleased business people.

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Author Contributions

J.R. and G.P. conceptualized the idea, performed the experiments, and wrote this paper; H.W. revised the manuscript, designed the experiments and analyzed the data responses and contributed to proofreading of this paper.

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Conflicts of Interest

The authors declare no conflict of interest.

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