***THE SUBSTITUTION OF JEWAWUT FLOUR (FOXTAIL MILLET) IN MAKING SEIBI PASTA ROLLS***

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**ABSTRACT**

This objective of was to find out: (1) The best recipe of Seibi Pasta Rolls, (2) the acceptance degree of Seibi Pasta Rolls product and (3) nutritional content of Seibi Pasta Rolls Product. This research was done using R & D (Research and Development) according to 4D method, including: (1) Define is the step to find the best recipe reference each product (2) Design is the step to find the best at substitution level of jewawut flour for each recipe selected reference, (3) Develop is the step to validate the selected recipes for each product (4) Dissemination is step to asses the public acceptance of each product. This research was conducted in culinary Engineering laboratory of Yogyakarta State University on January until April 2019. Analysis data was done using descriptive. The results of this study were: (1) the best recipe of Seibi Pasta Rolls product was jewawut flour : wheat flour (50 : 50), using a mixing, rolling and boiling for making the pasta cover, and sauteing for making the content of pasta and gravy, and the platting using a dinner plate with cheese sauce. (2) test result of sensory panelist for Seibi Pasta Rolls in terms the colour, aroma, texture and flavor was categorized in the preferred and very-preferred and (3) nutritional content of Seibi Pasta Rolls product based on the proximate test.

**Keywords**: Jewawut Flour, Foxtail Millet, Pasta, Seibi Pasta Rol

**INTRODUCTION**

Food is a basic need for every human being that must be fulfilled at all times. Meeting the needs of food can be done by optimizing the use of food sources, especially local food as an effort to diversify food (Nurapriani, 2010). Food diversification is an effort to increase the consumption of various kinds of food with the principles of diverse, nutritious and balanced. Food diversification needs the support of the availability of processing technology that is relatively easy and inexpensive to be applied in the community. In addition, the availability of processing technology for various food products from local materials, such as cereals other than wheat or tubers, will provide opportunities for growth and development of agro-industries, especially in production centers. This is expected to have an impact on increasing the added value of non-rice and non-wheat food crops, expanding employment opportunities and increasing community income.

Cereal consumption in Indonesia is often used both in the baking world and in the cooking world because this product can be processed into flour. Besides the delicious taste, cereals also contain many vitamins and minerals that are important for our body.

Pasta is one of the foods from Italy. Pasta made from semolina flour and water mixed into a mixture. According to Kulp and Ponte, Jr. (2000), semolina flour is a milled flour from durum wheat with a protein content of 12.5% ​​to 14.9%. Pasta is usually consumed as a main dish. One type of pasta that has been widely known to the public is lasagna.

Seibi Pasta Rolls is a main course in the form of pasta made from a mixture of jewawut flour with beetroot flour served in the form of a roll with cakalang hot and sour stuffing with creamy spilor (spinach and moringa leaf), and served with cheese sauce.

Jewawut, jawawut, juwawut or sekoi are a kind of small-seeded (milet) cereal with erect, segmented, pastel, and inserting from the lowest buds. Jewawut is one of the food crops. This plant has been cultivated in various countries, such as East Asia and Southeast Asia (including Indonesia). In developed countries, jawawut is used as a source of food. Even Indonesia also uses millet as a food source but does not make it a staple food like other countries.

Jewawut (Foxtail Millet) is a source of carbohydrates, has antioxidant activity, is rich in vitamins and minerals, and has high food fiber content. Jewawut is a plant that is rich in nutrients that is better than rice and corn. Because millet is rich in vitamins and minerals such as niacin, pyridoxine, and folocin. The nutritional content that is owned includes 84.2% carbohydrates, 10.7% protein, 3.3% fat, and 1.4% fiber. And millet also contains antioxidants, bioactive compounds, and high fiber so that it has the potential to become functional food.

Utilization of millet as a fortified material for innovation in local food ingredients is an alternative to produce food products that have nutritional value. Food products that can utilize millet flour as the main raw material are processed pasta. In making the pasta itself, there is no known limit on the use of millet flour (levels) to produce pasta with the expected organoleptic characteristics.

One of the most useful food ingredients. One of the benefits is providing natural colors in the manufacture of food products. The pigment found in red beets is betalanin. Betalanin is a class 4 antioxidant, which is rarely used in food products compared to anthocyanin and beta-carotene so it needs to be utilized optimally (Wirakusumah, 2007).

One source of natural dyes that can be used as food coloring and beverages is betalanin in beetroot, betalanin contained in beettroot has been used as food coloring, such as ice cream and frozen desserts without changing taste. This is evidenced by the absence of carcinogenic effects or other toxic effects so that red beet extract is safe as a food coloring (Petriana et al, 2013).

The purpose of this study was to find a suitable formula and to find out the community's acceptance of Siebi Pasta Rolls products from substitutes for foxtail millet flour.

**METHOD**

The products tested were Seibi Pasta Rolls, the acceptance test was held to the students of PTBB FT UNY as many as 30-40 people and the wider society that will be held at the final project exhibition with a target of 60 people.

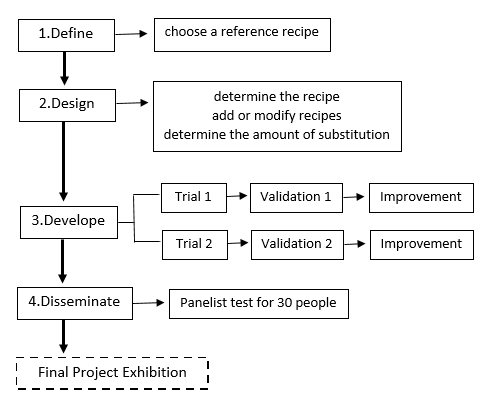


Figure 1. R&D Process

The type of research used is Research and Development. Research and Development (R & D) is a research method used to produce certain products and test the effectiveness of these products (Sugiyono, 2010: 494). This research aims to produce new products through the development process. Research activities are integrated during the product development process. This research procedure is through 4 stages called 4D, namely Define (Find), Design (Develop), Develop (Develop), and Disseminate (Market / Delete). The explanation is:

**Define**

In this study, the define phase 3 trials conducted simultaneously reference recipe, and then will be a sensory test 3 the reference product in order to obtain one reference recipe selected will then be developed.

**Design**

In the process obtained define a formula that will be used as reference. Furthermore, the recipe was developed into three new recipes with the substitution of jewawut flour with different levels. F1 uses as much as 30% of jewawut flour, jeawut flour F2 substitution as much as 50%, and F3 using jewawut flour as much as 70%. The resulting formula can be seen in Table 1 below:

*Table 1. recipe development*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No.** | **Name of Material** | **F1 (30%)** | **F2 (50%)** | **F3 (75%)** |
| **1** | Flour proteins were | 70 gr | 50 gr | 70 gr |
| **2** | Jewawut flour | 30 gr | 50 gr | 30 gr |
| **3** | Olive oil | 1 sdm | 1 sdm | 1 sdm |
| **4** | Egg | 1 | 1 | 1 |
| **5** | Egg yolk | 2 | 2 | 2 |
| **6** | Salt | 1 gr | 1 gr | 1 gr |

**Develop**

At this stage, the trial product with the look and appropriate packaging as will be used during the exhibition. The results of these trials will be used to improve the product.

**Disseminate**

At this stage of the panelists and disseminate tested the product dissemination. Test conducted by 30 panelists semi-trained panelists coming from Boga Technical Education UNY students Semester IV. The panelists were asked to give his assessment of the sensory test which includes color, aroma, flavor, texture, and overall product.

**Data Analyze**

The technique used to analyze data using descriptive research shows the level of explanation, namely asking for independent variables (not linked and compared). The following is the data source used. In this research, researchers used several panelists as data sources. Panelists provide an assessment of the color, aroma, taste, texture, and preference of Seibi Pasta Rolls products. Data sources are presented in table 3.

Table 3. Data Source

|  |  |  |
| --- | --- | --- |
| **Research Stage** | **Data Source** | **Total** |
| First trial product (validasi I) | Expert | 2 people |
| Second trial product (validasi II) | Expert | 2 people |
| Test Preference | Semi-trained panelists | Minimal 30 people |
| *Disseminate*: exhibition | Exhibition visitors | Minimal 60 people |

**Proximate analysis**

The test results demonstrate the consumer acceptance of products with jewawut flour substitution as much as 50% can still be accepted by consumers. After the acceptance test, test proximate to determine the nutrient content contained in the product Seibi Pasta Rolls Nutrient content contained in can be seen in Table 4 tested by LPPT UGM.

Table 4. Test Product Proximate Seibi Pasta Rolls

|  |  |
| --- | --- |
| **Analysis** | **Test results** |
| Water |  |
| Ash |  |
| Carbohydrate |  |
| protein |  |
| Crude fiber |  |
| Fat |  |
| Energy |  |

**RESULTS AND DISCUSSION**

*Table 3. Results of the sensory test phase desseminate*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| characteristics | Seibi Pasta Rolls | | | | |
| 1 | 2 | 3 | 4 | Average |
| Color | 0 | 2 | 21 | 37 | 3.58 |
| Aroma | 0 | 3 | 21 | 36 | 3.55 |
| Flavor | 0 | 2 | 20 | 38 | 3.63 |
| Texture | 0 | 1 | 18 | 41 | 3.66 |
| Whole | 0 | 0 | 19 | 41 | 3.68 |

Results are presented in Table 1 based on the information scale (1) is not preferred, (2) do not like, (3) the preferred and (4) highly preferred. The average yield on the whole "Seibi Pasta Rolls" reached 3.68 where it can be interpreted that " Seibi Pasta Rolls" nearly very popular panelist / final project exhibition visitors. So the purpose of this study have been achieved in terms of finding the right recipe and can know the power of public acceptance of Seibi Pasta Rolls.

**CONCLUSION**

Based on the results of research conducted to Seibi Pasta Rolls with substitution of Jewawut flour 50%. On the product control and the development of color, flavor and texture showed significant difference. Seibi pasta Rolls substituted by 50% has a crack texture, color yellow to brown. In terms of taste and overall acceptance of the control and development were not significantly different, so the product can be accepted. Sensory testing using hedonic test showed that the level of public acceptance of the products can be accepted with fondness highly preferred.

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