Consumer Acceptance of Spicy Fried Dry Potato and Shrimp Sambal for Condiments Instant Uduk Rice

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Abstract. Spicy fried dry potato and shrimp sambal (chili sauce) is made as the instant uduk rice condiment. It is expected that taste, flavour and nutritional product of instant uduk rice will be better and can increase the economic value of the product. The purpose of this research: 1) to know consumer acceptance of spicy fried dry potato and shrimp sambal (chili sauce); and 2) to know consumer acceptance of spicy fried dry potato and shrimp sambal as a condiment of uduk rice. Research methods such as design experimental and observational of the product by the number of panelists 100 people. The results showed that: 1) consumer acceptance of spicy fried dry potato and shrimp sambal both in terms of taste, aroma, texture, colour and preference obtained very like with an average score of 3.52 out of 4; 2) while the results of consumer acceptance of spicy fried dry potato and shrimp sambal as an instant uduk rice condiment obtained very like with an average score of 3.51. It was concluded that spicy fried dry potato and shrimp sambal deserved to be a condiment for instant uduk rice.

1. Introduction

One of the typical Indonesian foods based on rice is favoured by people from various backgrounds, namely uduk rice. Uduk rice is a dish made from white rice with the addition of coconut milk and spices, usually served together with fried chips, omelette, shredded, dried tempeh, fried onions, fried chicken, cucumber and sambal (chili sauce) [1]. Uduk rice is rice which is added with coconut milk so that it has a savory taste. Uduk rice is seasoned rice processed and served with dry side dishes such as fried chicken dishes, anchovies fried shrimp / shrimp, and fried meat [2].

Packaging food products are often found in the market but very few types of preserved food are based on traditional Indonesian food [3]. The research conducted was experimental research with the aim of producing products in the form of preserved dishes as condiments or complementing instant nasi rice dishes. Instant rice is a product that has been produced through research conducted in 2013 to 2016, with the aim of presenting a more practical and fast food product (3 minutes) [4]. To complete the product that has been produced (Instant Uduk Rice) another product is needed which can be used as a condiment / complement dish so that the resulting product is more complete in terms of serving which includes the content and amount of nutrition for each dish. Instant uduk rice and condiment / complementary offerings are expected to be used as a practical food unity to be presented and easily packaged so that it is also easy to be used as a provision for traveling activities both domestically and abroad, as well as food in emergency conditions such as natural disasters. The condiment / complement of instant uduk rice can be in the form of various dishes in a group of side dishes with a variety of chili sauce and in dry conditions [5].
The research carried out is to make side dishes in the form of spicy fried dry potato and shrimp sambal, which will accompany or as a condiment for instant uduk rice products that have been produced in previous studies, namely 2013 and 2016. Spicy fried dry potato and shrimp sambal made as instant uduk rice condiment so that it is equipped the expected condition of flavour and nutrition of instant uduk rice products is getting better and increasing so that it can increase the economic value if it will be used as a community business or SMEs. The purpose of this research: 1) to know consumer acceptance of spicy fried dry potato and shrimp sambal; and 2) to know consumer acceptance of spicy fried dry potato and shrimp sambal as a condiment of uduk rice.

2. Materials and Methods

2.1. Material Preparation

The initial stage of the research is preparation of ingredients to make spicy fried dry potato and shrimp sambal. The ingredients can be described in Table 1 as follows.

| No. | Materials                        | Quantity (gram) |
|-----|----------------------------------|-----------------|
| 1.  | Butter potatoes chip             | 150 gram        |
| 2.  | Instant shrimp                   | 30 gram         |
| 3.  | Fried Garlic                     | 4 gram          |
| 4.  | Seasoning:                       |                 |
|     | Salt                             | 3 gram          |
|     | Palm sugar                       | 70 gram         |
|     | Tamarind solution                | 40 ml           |
|     | Puree red chilli                 | 30 gram         |
|     | Liquid                           | 10 ml           |
| 5.  | Vegetable oil                    | 20 ml           |

Based on the above table can be explained the ingredients in making spicy fried dry potato and shrimp sambal products, where the main ingredients consist of butter, potatoes chip, instant shrimp, fried garlic, and vegetable oil while the seasoning uses consist from salt, palm sugar, tamarind solution, puree red chilli, and liquid in certain proportions as seen in the Table 1 [6].

2.2. Equipment for make spicy fried dry potato and shrimp sambal

The initial stage of the research is preparation of equipment to make spicy fried dry potato and shrimp sambal. The equipment can be described in Table 2. The table can be explained the equipment in making spicy fried dry potato and shrimp sambal products, where the equipment are digital scales, spoon, bowl, measuring cup, rubber spatula, Teflon pan, blender, strainer, stainless spatula, plastic tray, bowl dough plastic, portable stove, cobek and ulekan, cutting board, wooden spatula, knife, packaging, vacuum sealer use for packaging the product, and electric oven to dry out of the spicy fried dry potato and shrimp sambal products.

2.3. Making Process

The process of making spicy fried dry potato and shrimp sambal products consists of the preparation stage, processing stage, and presentation stage. The preparation stage is carried out to prepare all the main ingredients and seasoning used for further processing into spicy fried dry potato and shrimp sambal products. The next stage is processing, at this stage consists of sauce and mixing 1 minute, the product of spicy fried dry potato and shrimp sambal products finish can to use organoleptic test and laboratory test (proximate) can be seen in Figure 1.
Table 2. Equipment for make spicy fried dry potato and shrimp sambal

| No. | Tool's name           | Quantity | Specification                     |
|-----|-----------------------|----------|-----------------------------------|
| 1.  | Digital scales        | 1 piece  | Steel, Tanita brand               |
| 2.  | Spoon                 | 4 pieces | Stainless steel                   |
| 3.  | Bowl                  | 4 pieces | Porcelain, $\phi = 15$ cm         |
| 4.  | Measuring cup         | 2 pieces | Plastic and glass / fiber         |
| 5.  | Rubber spatula        | 2 pieces | Plastic                           |
| 6.  | Teflon Pan            | 2 pieces | Teflon coated iron                |
| 7.  | Blender               | 4 Units  | Plastic                           |
| 8.  | Strainer              | 4 Units  | Stainless steel                   |
| 9.  | Stainless spatula     | 4 units  | Plastic                           |
| 10. | Plastic tray          | 2 pieces | Stainless steel                   |
| 11. | Bowl dough plastic    | 4 pieces | Stainless steel                   |
| 12. | Portable stove        | 1 piece  | Stainless steel                   |
| 13. | Cobek and Ulekan      | 1 set    | Stone                             |
| 14. | Cutting board         | 2 pieces | Wood                              |
| 15. | Wooden spoon          | 4 pieces | Wood                              |
| 16. | Knife                 | 2 pieces | Steel                             |
| 17. | Packaging             | sufficiently | Aluminium foil                  |
| 18. | Vacuum Sealer         | 1 unit   | Electric                          |
| 19. | Electric Oven         | 1 unit   | Kirin                             |

Figure 1. Method of Spicy Fried Dry Potato and Shrimp Sambal

2.4. Research of Methods
The type of research being conducted is experimental with 100 respondents consisting of students and lecturers in the Home Economics Department, Faculty of Engineering, Universitas Negeri Surabaya. The instrument used to obtain data in the study related to consumer acceptance of the test of preference
on spicy fried dry potato and shrimp chili sauce: aroma, taste, colour, texture, and liking in spicy fried dry potato and shrimp sambal products using a questionnaire. Data collection method uses observation by organoleptic testing on spicy fried dry potato and shrimp sambal products using a Likert scale (1-4 scale) with the following criteria: very like (score 4), like (score 3), quite like (score 2) dislike (score 1). Data analysis techniques in this study were carried out using computer assistance SPSS 18.00 program, the analysis of the results of consumer test data was done by Friedman test [7].

3. Results and Discussion

3.1. Descriptive test
Consumer assessment of spicy fried dry potato and shrimp chili sauce products includes: smell (aroma), taste, colour, texture, and preference. As for the presentation of data on consumer assessment results can be seen in Figure 2.

![Mean Aspects of Consumer Acceptance of Spicy Fried Dry Potato And Shrimp Sambal Products](image)

**Figure 2.** The mean of respondents' preference for Spicy Fried Dry Potato and Shrimp Sambal Products

**Table 3.** Descriptive Statistics Spicy Fried Dry Potato and Shrimp Sambal Products

|     | N   | Mean  | Std. Deviation | Minimum | Maximum |
|-----|-----|-------|----------------|---------|---------|
| Smell | 100 | 3.5400 | .53973         | 2.00    | 4.00    |
| Taste| 100 | 3.5000 | .64354         | 2.00    | 4.00    |
| Colour|100  | 3.5100 | .52214         | 2.00    | 4.00    |
| Texture|100  | 3.5100 | .57726         | 2.00    | 4.00    |
| Preference|100  | 3.5600 | .53786         | 2.00    | 4.00    |

Based on Figure 2, the mean of consumer assessment of spicy fried dry potato and shrimp sambal products that on the smell criteria has a mean value of 3.54, the taste criteria has a mean value of 3.5, the colour criteria has a mean value of 3.51, texture criteria have a mean value of 3.51, and the preference criteria has a mean value of 3.56. The assessment of the smell and preference criteria for spicy fried dry potato and shrimp sambal products has the highest mean with a value of 3.54 and 3.56, this is because the smell that appear on spicy fried dry potato and shrimp sambal products have a distinctive sweet-flavoured smell caused by a combination of spices, potatoes, brown sugar and acid. Spices - herbs from herbs and herbs basically have esteric substances which when heated will cause a pleasant and delicious aroma [8].
Based on Figure 3, the mean consumer assessment of instant uduk rice products combined with spicy fried dry potato and shrimp sambal products that is on the aroma criteria has a mean value of 3.52, the taste criteria has a mean value of 3.62, the colour criteria has a mean value of 3.42, texture criteria has a mean value of 3.44, and the preference criteria has a mean value of 3.56. The assessment on the taste criteria of instant uduk rice products combined with spicy fried dry potato and shrimp sambal products has the biggest mean value of 3.62 this is because the taste of the combination between the two has the right taste and delicious blend of savory instant uduk rice and spicy fried dry potato and shrimp sambal products and slightly sour [9, 10].

3.2. Friedman Test
The Friedman test results in Table 5 show that the level of consumer acceptance of spicy fried dry potato and shrimp sambal products on the criteria of smell (aroma), taste, color, texture, and preference with a Chi-Square value of 1.275 where the significance level (Asymp.Sig) is 0.866 (above 5%). This means that the hypothesis that there is no effect on spicy fried dry potato and shrimp sambal on the criteria of smell, taste, colour, texture, and preference is rejected. So it can be concluded that there are no significant differences for spicy fried dry potato and shrimp sambal products on the criteria of smell, taste, color, texture, and preference produced, so that the spicy fried dry potato and shrimp sambal products from the tested criteria which are equally preferred by the respondents [11-12].
Table 5. Friedman test results on spicy fried dry potato and shrimp sambal products on the criteria of smell, taste, color, texture, and preference

| Statistics | Test |
|------------|------|
| N          | 100  |
| Chi-Square | 1.275|
| Df         | 4    |
| Asymp. Sig.| .866 |

The Friedman test results in Table 6 show that the level of consumer acceptance of spicy fried dry potato and shrimp sambal products is combined with instant uduk rice on the criteria of smell, taste, color, texture, and preference with a Chi-Square value of 10.957 where the significance level (Asymp .Sig) of 0.027 (above 5%). This means that the hypothesis that there is an influence on spicy fried dry potato and shrimp sambal products combined with instant uduk rice on the criteria of smell, taste, color, texture, and preference is accepted. So it can be concluded that there is a significant difference for spicy fried dry potato and shrimp sambal products combined with instant uduk rice on the criteria of smell, taste, color, texture, and preference produced, so the spicy fried dry potato and shrimp sambal products combined with instant uduk rice from the criteria tested that are equally liked by respondents [13,14].

Table 6. Friedman test results on spicy fried dry potato and shrimp sambal products combined with instant uduk rice on the criteria of smell, taste, color, texture, and preference

| Statistics | Test |
|------------|------|
| N          | 100  |
| Chi-Square | 10.957|
| Df         | 4    |
| Asymp. Sig.| .027 |

4. Conclusions
The response from consumers is to accept both spicy fried dry potato and shrimp sambal products combined as an instant uduk rice condiment, in terms of taste, smell, color, texture and preference. The mean results of respondents' assessment of spicy fried dry potato and shrimp sambal products with the following sensory score: 3.54 (aroma); 3.5 (taste); 3.51 (colour); 3.5 (texture) and 3.56 (preference). The mean results of respondents' assessment of spicy fried dry potato and shrimp sambal products combined with instant uduk rice with the following sensory score: 3.52 (aroma); 3.62 (taste); 3.42 (colour), 3.44 (texture) and preference score was 3.55.

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