

The Manufacture Of Waste Jackfruit Seed Becomes *Perkedel*

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Abstract—Jackfruit is one of fruit types that is widely grown in the tropics area. In Indonesia, jackfruit able to grow in almost each region. The utilization of jackfruit as a variety of processed foods have been done a lot, but jackfruit seeds as one of the waste processing jackfruit has not been widely utilized. This research tries to do the manufacture of waste jackfruit seed as raw material of making *perkedel* by comparing with potato *perkedel*. The results of this study indicates that the nutrient content contained in jackfruit seeds is quite high. The manufacture of jackfruit seeds as raw material for making *perkedel*, studied in terms of texture, flavor, aroma, and color show positive value. In other words that with test of organoleptic test result of research able to conclude that quality of *perkedel* based of jackfruit seeds able to surpass the potato *perkedel*. Therefore, jackfruit seeds can be said that is very potential as one of the raw materials of making *perkedel*.

Keywords—Manufacture, Jackfruit seeds, *Perkedel*

I. INTRODUCTION

Jackfruit plant (*Artocarpus Heterophyllus Lamk*) is included on fruit trees grown in many yards or fields. Jackfruit plants bear fruit throughout the year if treated well and there is no long drought. The utilization of jackfruit is still limited so that people only consume its fruit only. While jackfruit seeds are very abundant has not been widely used or thrown away without any further processing.

In general, jackfruit seeds are only used in the form of roasted, boiled, and fried jackfruit. In fact, the nutrient content of jackfruit seeds is quite large, namely carbohydrates (36.7 g / 100 g), protein (4.2 d / 100 g), and energy (165 kcal / 100 g), so it can be used as a potential food. Jackfruit seeds are also a good source of minerals. In 100 grams of jackfruit seeds contained phosphorus (200 mg), calcium (33 mg), and iron (1.0 mg) (Nuraini, 2011).

Therefore, this research is done to examine the processing of jackfruit seeds as the raw material for making the *perkedel*. This is as one of the efforts of the utilization of waste jackfruit seed so it can be a product that has a higher selling value than the conventional processing efforts which have been done so far. The problems to be addressed are: How is the quality of *perkedel* based jackfruit seeds?

II. DISCUSSIONS

Waste Jackfruit fruit in the form of its seeds still contain high nutrients. During this time, jackfruit seed is consumed only by boiling and eating it. However, jackfruit seeds can further be processed and used as side dishes. This research was conducted to utilize jackfruit seeds as the basic material of making *perkedel*. The observed results are the quality of the crops seen in terms of texture, flavor, aroma, and color.

Based on the organoleptic test of the quality of *perkedel*-based jackfruit seed with P0 comparison of potato cakes assessed by 30 panelists on the texture indicator, respondents who answered very gently is (5) = 2x5 = 10, respondents who answered softly is (4) = 21x4 = 84, respondents who answered softly is (3) = 7x3 = 21, respondents who answered softly is (2) = 0, and respondents who answered not soft (1) = 0. Total score: 10 + 84 + 21 = 115. So, summed up from a total score of 115 is a soft criterion texture.

Furthermore, the results of panelist assessment on the indicator of the respondents who responded very well is (5) = 1x5 = 5, respondents who answered delicious is (4) = 20x4 = 80, respondents who answered quite delicious is (3) = 9x3 = 27, respondents who answered less is (2) = 0, and respondents who answered uncomfortably is (1) = 0. Total score: 5 + 80 + 27 = 112. So, it can be concluded from the total score of 112 is good taste.

Furthermore, the results of the panelists' assessment on the scent indicator are the respondents who answered very pleasantly is (5) = 2x5 = 10, the respondents who responded pleasantly is (4) = 20x4 =

80, the respondents who answered quite pleasantly is $(3) = 8 \times 3 = 24$, respondents who answered less is $(2) = 0$, and respondents who answered unsightly is $(1) = 0$. Total score: $10 + 80 + 24 = 114$. So, it can be concluded from total score 114 is delicious.

Furthermore, the result of the panelist assessment on the color indicator of respondents who answered very interesting is $(5) = 4 \times 5 = 20$, respondents who answered interesting is $(4) = 20 \times 4 = 80$, respondents who answered quite interesting is $(3) = 6 \times 3 = 18$, respondents who answered less is $(2) = 0$, and the respondents who answered were unattractive is $(1) = 0$. Total score: $20 + 80 + 18 = 118$. Thus, it can be concluded from the total score 118 is interesting.

Based on test result of organoleptic test of quality of *perkedel*-based jackfruit seed with P1 of *perkedel*-based jackfruit seed assessed by 30 panelists on the indicators of respondent's texture of very soft is $(5) = 18 \times 5 = 90$, respondents who answered softly is $(4) = 12 \times 4 = 48$, respondents who answered moderately is $(3) = 0$, respondents who answered softly is $(2) = 0$, and respondents who answered not soft is $(1) = 0$. Total score: $90 + 48 = 138$. So, it can be concluded from total score 138 is a very soft texture criteria.

Furthermore, the results of the panelists' assessment on the taste indicator of respondents who answered very well is $(5) = 11 \times 5 = 55$, respondents who answered delicious is $(4) = 19 \times 4 = 76$, respondents who answered quite well is $(3) = 0$, respondents who answered less delicious is $(2) = 0$, and respondents who answered uncomfortably is $(1) = 0$. Total score: $55 + 76 = 131$. So, it can be concluded from the total score 131 is a very good taste.

Furthermore, the results of the panelists' assessment on the aroma indicator is the respondents who answered very pleasantly $(5) = 12 \times 5 = 60$, respondents who answered delicious $(4) = 18 \times 4 = 72$, respondents who answered quite delicious $(3) = 0$, respondents who answered less $(2) = 0$, and respondents who answered unsightly $(1) = 0$. Total score: $60 + 72 = 132$. So, it can be concluded from total score 132 is very good.

Furthermore, the results of the panelist assessment on the color indicator of respondents who answered very interesting is $(5) = 14 \times 5 = 70$, respondents who answered interesting is $(4) = 16 \times 4 = 64$, respondents who answered quite interesting is $(3) = 0$, respondents who answered less interesting is $(2) = 0$, and the respondents who answered unattractively is $(1) = 0$. Total score: $70 + 64 = 134$. So, it can be concluded from the total score 134 is very interesting.

III. CONCLUSIONS

Based on the results of the study, it can be concluded that the quality of *perkedel*-based jackfruit seed can beat the potato *perkedel*P0 as a comparison with the total of P1 535 while P0 is 459. So *perkedel*-based jackfruit seed can be said potential as a raw material for making *perkedel*. For the future, hopefully this product is able to be marketed for a wider consumer such as restaurants, and hotels. As for suggestions from the author is as a potential raw materials, waste jackfruit seeds should be utilized more maximal as a raw material for making *perkedel* because it can be promoted to people who are vegetarian. Therefore, the societies are able to utilize the seeds of jackfruit as a side dish.

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