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# The Effect of Adding Carrots on the Processing of Mud Cakes

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**Abstract**

*This Final Project is entitled "The Effect of The Additional of Carrots toThe Process of a Mud Cake". The research was intended to identify the quality of the mud cake using carrots as one of the ingredients. The method used in this research is experimental, whereas the type of research used is quantitative. Data collection techniques are subjective assessment including sensory test and preference test. The research suggests that carrots affect the mud cake in taste and color, but they don't affect the texture and scent indicators. The flavors being produced are salty sweet, while the colors are orangish yellow. The texture and scent produced as same as the original mud cake, that is soft and no pores with good scent of cakes. From this research, the respondents like the carrot mud cake.*

Keywords
traditional cake; mud cake; carrot

## I. Introduction

Traditional food is one of the works of art and technology inherited from our ancestors that needs to be preserved and developed so that it does not disappear due to foreign culture. Not only is it known as a fulfillment of nutrition and energy sources, but food also has economic and social functions. The variety of types of food produced by a nation is an indication of the nation's cultural wealth. If viewed from a social perspective, traditional food is also known as a unifier of the nation by maintaining human relations. By being served traditional food at a conference, it will strengthen the sense of brotherhood among fellow regions (Marwanti, 1997).

Food and Beverage Product is one of the important departments in a hotel, because Food and Beverage Product is responsible for processing food and beverages served to guests staying at the hotel. Food and Beverage Products also have another function, namely as an addition to hotel revenue apart from room sales revenue. The Food and Beverage Product is divided into several sections, namely the main kitchen, cold kitchen, banquet, pastry & bakery, and butcher.

Pastry & Bakery is a section in the Food and Beverage Product Department which specializes in handling/making cake, bread, pudding, chocolate, market snacks, and various other desserts. In this section, not all hotels in Indonesia produce traditional market snacks/cakes. Some of the reasons are because traditional cakes, especially wet cakes, go stale faster or don't last long, and they are also quite difficult to make.

The snacks market are traditional Indonesian cakes that are traded in the market, especially in traditional markets. Almost every region in the archipelago has its own traditional cake. This traditional cake is often found at breakfast at the hotel. However, not many Indonesians know about traditional Indonesian cakes, especially teenagers. One of the cakes traditional is the mud cake.

Mud cake is a traditional semi-wet cake originating from Sidoarjo, with the basic ingredients of flour, margarine, eggs, coconut milk, sugar, and potatoes. Carrot mud cake has a soft and legit texture with a sweet taste, also slightly savory, and has no pores. One of the basic ingredients in making mud cakes is potatoes. The presence of potatoes in the basic ingredients of the mud cake gives it a soft texture, because the potatoes themselves have a soft texture, not fibrous, and also contain starch which can bind the mud cake dough. The use of potatoes in making mud cakes can be replaced with other ingredients, one of which is carrots.

Carrots are a type of tuber that has roots underneath and leaves on top. The taste produced by carrots is generally sweet. Carrots have fiber and do not contain starch which is owned by potatoes which can bind the dough for mud cakes.

For the people of Indonesia, in general, carrots are only used as a complementary ingredient in a food product. Therefore, carrots can be used as an alternative in the manufacture of various pastry products, especially mud cakes.

Based on the description above, researchers are interested in conducting research related to the addition of carrots by 90% of the potatoes used in the process of making mud cakes. Therefore the researchers took the title The Effect of Adding Carrots to the Process of Mud Cake Processing.

The benefits of this research are as information and add insight to the use of carrots as a basic ingredient in processing mud cakes. The purpose of this research is to fulfill the requirements in completing the Diploma 3 Hospitality Study Program, Faculty of Tourism, Stikubank University (UNISBANK) Semarang.

## II. Review of Literature

According to Dinoro (2015) pastry is essentially a type of bread and so many different types exist that there is no way to classify them. Their chief differences have to do with their fat, the type used, its proportion, and how it is introduced it into the flour.

According to Faridah (2008), patisserie is one of the knowledge in processing and serving food, especially processing and serving various types of cakes. Patisserie comes from the French word patisserie which means cakes. Thus patisserie can be interpreted as a science that studies the ins and outs of cakes, both continental, oriental and Indonesian cakes from preparation, processing to presentation. Currently patisserie is studied as a science and art in processing and serving various kinds of cakes both traditional and modern cakes. Cake can be served On various occasions, besides giving a feeling of fullness, cakes also function as decorations or decorations. Now the quality and taste of the cake has been much different.

Meanwhile, according to Bartono (2005:164) in his book Food Product Management in Hotels and Restaurants, pastry is part of the kitchen that produces especially various types of bread, cakes, and desserts.

In its operational work, pastry is divided into 3 parts, namely:

1. Pastry (Pattiseries) is the part that is responsible to all *cold and hot sweets*yang is used for breakfast, lunch, and dinner.
2. Bakery (Boulangeries) is the part that is responsible for making various kinds of bread needed for breakfast, lunch and dinner.
3. Ice Cream (Glaciers), This section is responsible for making various variations of ice, such as sundaes and banana splits.

Starting from an Egyptian culture, where the people process flour and water to wrap cooked meat. Pastry then developed into the Middle East region and was brought to Europe by Muslims in the 7th century. In the Middle Ages, people began to recognize pudding and pie. Only after entering the 17th century, began to develop puff pastry and flaky pastry.

*Puff pastry was originally invented by a French citizen named Claudius Gele in 1645. At that time Claudius wanted to make a delicious loaf of bread for his ailing father, using a diet guide consisting of flour, water, and butter. Claudius worked the dough, folded it and put the butter in it. He did it over and over again until reached ten times, until finally he did the baking of the dough. Unexpectedly, the processing of the dough, in the form of a cake that was layered with a hollow which is currently known as pastry.*

Based on the above understanding, it can be concluded that pastry is a section in food and beverage products that is responsible for handling cake and bread processing, both continental, oriental, and traditional.

## III. Research Method

The type of research is the method or method used in research activities. According to Hasan (2002:9) research is human curiosity about a problem by treating certain things (such as checking, investigating, studying, and studying carefully and seriously) so that something is obtained (such as reaching the truth, obtaining answers, developing knowledge, and so on).

According to Sugiyono (2012:13) descriptive research, namely, research conducted to determine the value of independent variables, either one or more variables (independent) without making comparisons, or connecting with other variables.

In this study, what is meant by the type of descriptive research is to explain the effect of adding carrots to the process of processing mud cakes.

## IV. Results and Discussion

The description of the respondents is a general description of the respondent's data which has helped researchers in providing answers to the research questionnaire. The respondents in this case are people who have been willing to try samples from the Carrot Mud Cake.

### 4.1 Description by Gender

Based on the results of the questionnaire data regarding the identity of respondents who have filled out and answered the questions in the questionnaire, it can be seen that the identity of respondents based on gender is as follows:

**Table 1.** Identity of Respondents by Gender

| No. | Gender | Total | Percentace |
|---|---|---|---|
| 1 | male | 14 | 46.7% |
| 2 | female | 16 | 53.3% |
| **Tbrai** | | 30 | 100% |

Source: Processed Questionnaire Data, 2020

Based on table 1 above, it can be concluded that of the 30 respondents, there are 40% or as many as 12 respondents who are male. Meanwhile, for respondents, gender there are 60% women or as many as 18 respondents.

### 4.2 Description by Age

Based on the results of the questionnaire data regarding the identity of respondents who have filled out and answered the questions in the questionnaire, it can be seen that the identity of respondents based on age is as follows:

**Table 2.** Identity of Respondents by Age

| No. | Age | Total | Percentace |
|---|---|---|---|
| 1 | 17 – 25 years | 10 | 33.4% |
| 2 | 26 – 30 years | 1 | 3.3% |
| 3 | 31 – 50 years | 19 | 63.3% |
| **Tbrai** | | 30 | 100% |

Source: Processed Questionnaire Data, 2020

Based on table 2 above, it can be concluded that of the 30 respondents, there are 30% or as many as 9 respondents aged between 17-25 years. Meanwhile, for respondents aged between 26-30 years there are 6.7% or as many as 2 respondents, and for respondents aged between 31-50 years there are 63.3% or as many as 19 respondents.

### 4.3 Job Description

Based on the results of the questionnaire data regarding the identity of respondents who have filled out and answered the questions in the questionnaire, it can be seen that the identity of respondents based on work is as follows:

**Table 3.** Identity of Respondents by Occupation

| No. | Age | Total | Percentace |
|---|---|---|---|
| 1 | Private | 19 | 63.3% |
| 2 | PNS | 1 | 3.3% |
| 3 | Entrepreneura | 5 | 16.7% |
| 4 | Student/College student | 5 | 16.7% |
| **Tbrai** | | 30 | 100% |

Source: Processed Questionnaire Data, 2020

Based on table 3 above, it can be concluded that of the 30 respondents, there are 53.3% or as many as 16 respondents who have private jobs. Meanwhile, for respondents who have civil servant jobs, there are 6.7% or as many as 2 respondents. For respondents who have self-employed jobs there are 23.3% or as many as 7 respondents. And for student respondents, there are 16.7% or as many as 5 respondents.

The researcher's observations were carried out to obtain complete data about the process of making carrot mud cake experimental results. Overall, the results of research observations include indicators of taste, color, texture and aroma, for more details, see the following table:

**Table 4.** Researcher Observations of Carrot Mud Cake Experiment Results

| No. | Engikator | Mud Cake Carrot |
|---|---|---|
| 1 | Racea | Manis savory |
| 2 | Colora | Myning orange |
| 3 | Tetexture | Gluebut not porous |
| 4 | Aromaa | Fragrant |

Source: Researcher Observation Results, 2020

Based on table 4, it can be concluded that the experimental carrot mud cake has a sweet and savory taste, an orange-yellow color, a soft, non-porous texture and a fragrant aroma.

Tabulasi data is a form of general description of the scores of the assessment results and the results of scoring on certain items. The following is the result of tabulation of respondent's assessment data regarding the effect of adding carrots to the mud cake through sensory tests and liking tests.

**Table 5.** Data Tabulation of Carrot Mud Cake

| No | Testi Organoleptic | | | |
|---|---|---|---|---|
| | Racea W | Arna | Techshock | Aromaa |
| 1 | 4 | 3 | 4 | 4 |
| 2 | 4 | 3 | 2 | 3 |
| 3 | 4 | 3 | 4 | 3 |
| 4 | 4 | 2 | 4 | 3 |
| 5 | 4 | 3 | 2 | 3 |
| 6 | 4 | 3 | 3 | 2 |
| 7 | 4 | 3 | 3 | 3 |
| 8 | 4 | 3 | 3 | 4 |
| 9 | 4 | 3 | 4 | 4 |
| 10 | 4 | 4 | 4 | 4 |
| 11 | 4 | 4 | 4 | 4 |
| 12 | 4 | 4 | 4 | 4 |
| 13 | 4 | 3 | 4 | 4 |
| 14 | 4 | 3 | 4 | 3 |
| 15 | 4 | 4 | 4 | 4 |
| 16 | 4 | 3 | 4 | 4 |
| 17 | 4 | 3 | 4 | 3 |
| 18 | 4 | 4 | 4 | 4 |
| 19 | 3 | 1 | 3 | 1 |
| 20 | 4 | 3 | 4 | 3 |
| 21 | 4 | 3 | 3 | 4 |
| 22 | 4 | 3 | 3 | 4 |
| 23 | 3 | 4 | 3 | 4 |
| 24 | 4 | 3 | 4 | 4 |
| 25 | 4 | 3 | 4 | 4 |
| 26 | 4 | 3 | 4 | 4 |

| | | | | |
|---|---|---|---|---|
| 27 | 4 | 3 | 3 | 4 |
| 28 | 4 | 3 | 3 | 3 |
| 29 | 4 | 3 | 3 | 3 |
| 30 | 4 | 3 | 4 | 3 |
| Amount | 118 | 93 | 106 | 104 |
| Ratea | 3.93 | 3.10 | 3.53 | 3.47 |

Source: Processed Questionnaire Data, 2020

Based on the table above, it can be seen that the score for the taste of the carrot mud cake in the organoleptic test was 28 respondents gave a score of 4 with the criteria of sweet and savory, 2 respondents gave a score of 3 with the criteria of slightly savory, 0 respondents gave a score of 2 with the criteria of slightly sweet, and 0 respondents gave score 1 with bland criteria. The average result of the organoleptic test on the taste of the Carrot Mud Cake was 3.93.

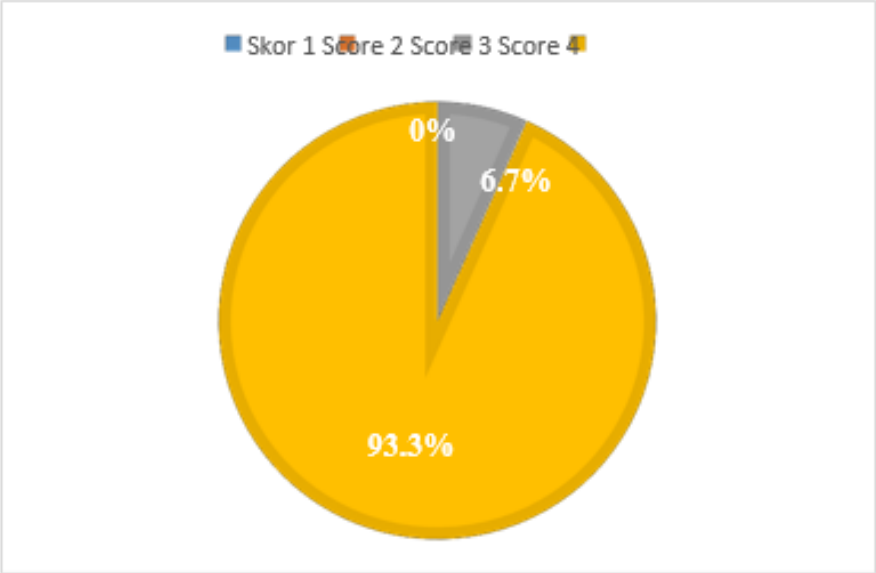
Based on the table above, it can be seen that the color score of the carrot mud cake in the organoleptic test is 5 respondents giving a score of 4 with orange criteria, 23 respondents giving a score of 3 with orange-yellow criteria, 1 respondent giving a score of 2 with bright yellow criteria, and 1 respondent giving a score of 1 with pale yellow criteria. The average result of the organoleptic test on the color of the Carrot Mud Cake was 3.10.

Based on the table above, it can be seen that the score for the texture of the carrot mud cake in the organoleptic test was 18 respondents gave a score of 4 with a soft non-porous criterion, 10 respondents gave a score of 3 with a slightly soft criterion, 2 respondents gave a score of 2 with a fibrous criterion, and 0 responden gave a score of 1 with the criteria of large pores. The average result of the organoleptic test on the texture of the Carrot Mud Cake was 3.53.

Based on the table above, it can be seen that the score for the carrot mud cake aroma in the organoleptic test is 17 respondents giving a score of 4 with the criteria of being fragrant, 11 respondents giving a score of 3 with the criteria of being slightly fragrant, 1 respondent giving a score of 2 with the criteria of being less fragrant, and 1 respondent giving a score of 1 with the criteria not fragrant. The average result of the organoleptic test on the taste of the Carrot Mud Cake was 3.47. This is a table of organoleptic test results in terms of taste, color, texture, and aroma indicators:

### a. Taste

Racea is one of the indicators used in this study which multiplies the sense of taste, namely the mouth and tongue. The results of the organoleptic test on the taste of the carrot mud cake can be seen in the table give this kut:



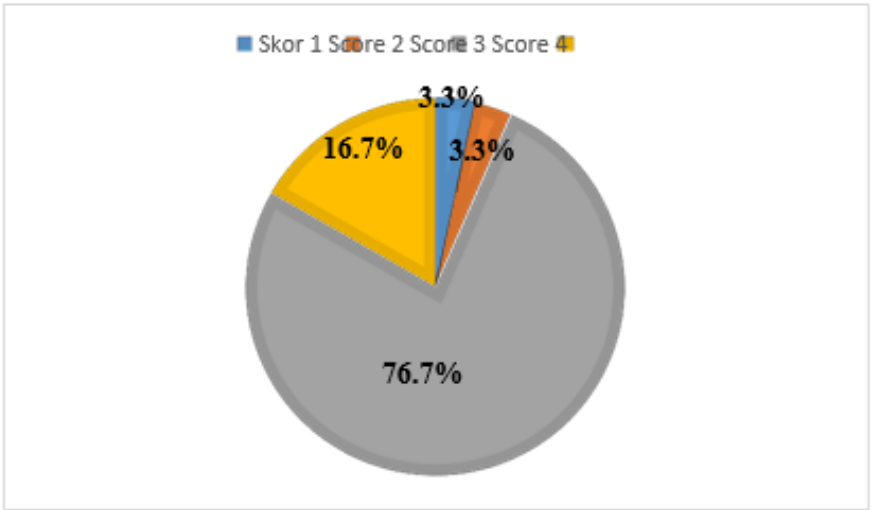

Source: Researcher Data Processing Results, 2020

***Figure 1.*** *Organoleptic Test Results on Mud Cake Flavor* Carrot

Based on the organoleptic test on the taste indicators (figure 1) the respondents gave the most a score of 4 as many as 28 respondents or 93.3% with the criteria of sweet and savory. The sweet taste of this carrot mud cake is obtained from carrots, while the savory taste is obtained from the thick coconut milk used. A score of 3 with slightly savory criteria was obtained from 2 respondents or 6.7%. A total of 0 respondents or 0% who gave a score of 1 with bland criteria, and as many as 0 respondents or 0% gave a score of 2 with a slightly sweet criteria.

### b. Color

Colora is one of the indicators used in this research, which involves the sense of sight, namely the eye. The results of the organoleptic test on the color of the carrot mud cake can be seen in the table give this kut:



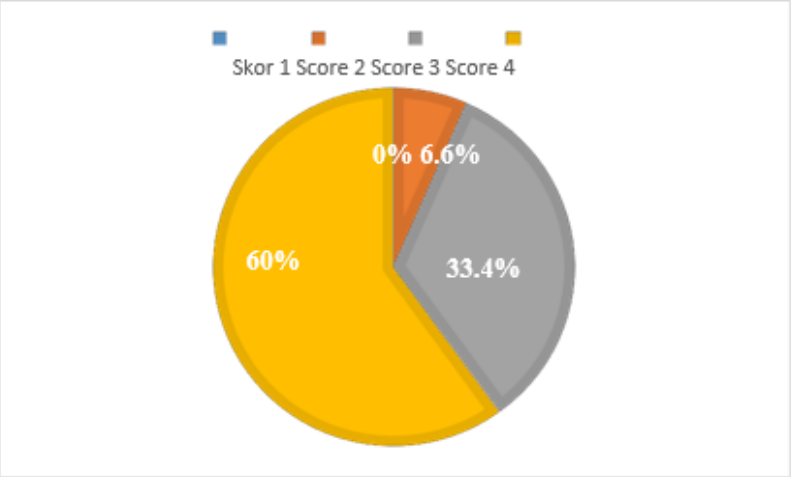

Source: Researcher Data Processing Results, 2020

***Figure 2.*** *Organoleptic Test Results on Mud Cake Color Carrot*

Based on the organoleptic test on the color indicator (Figure 2) the most respondents gave a score of 3 as many as 23 panelists or 76.7% with yellow-orange criteria. The orange color of the carrots doesn't really matter much in this carrot mud cake, so the resulting color is an orange-yellow. While a score of 4 was obtained from a number of 5 respondents or 16.7% with orange criteria. As many as 1 respondent or 3.3% gave a score of 2 with bright yellow criteria and 1 respondent or 3.3% gave a score of 1 with pale yellow criteria.

### c. Texture

Tetexture is one of the indicators used in this study, which involves the sense of touch, namely the skin. The results of the organoleptic test on the texture of the carrot mud cake can be seen in the following table:



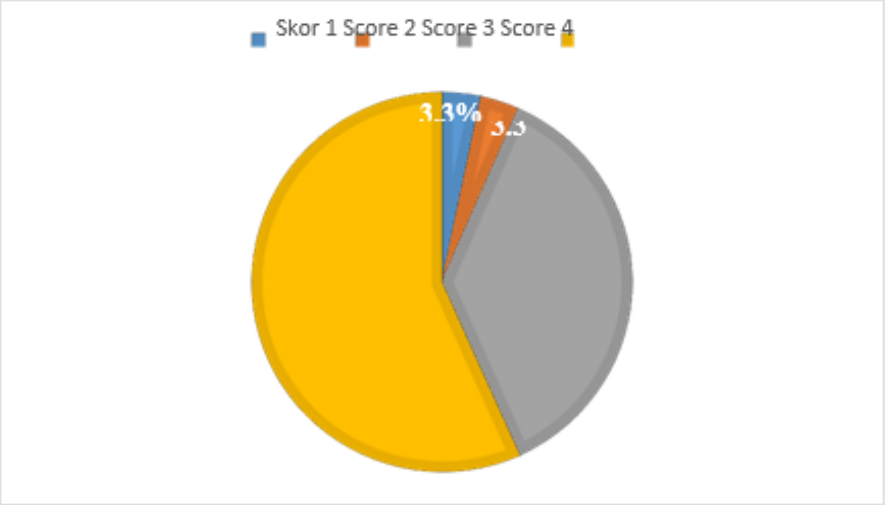

Source: Researcher Data Processing Results, 2020

***Figure 3.*** *Organoleptic Test Results on Cake Texture lampr Carrot*

Based on the organoleptic test on the texture indicators (Figure 3) the most respondents gave a score of 4 as many as 18 respondents or 60% with the criteria of being soft and not porous. Although the carrots in this carrot mud cake are fibrous and contain no starch or gluten, the resulting product has a soft, fibrous and non-porous texture. A total of 10 respondents or 33.4% gave a score of 3 with slightly soft criteria. A total of 2 respondents or 6.6% gave a score of 2 with fibrous criteria, while as many as 0 respondents or 0% gave a score of 1 with large porous criteria.

### d. Aroma

Aromaa is one of the indicators used in this study, which involves the sense of smell, namely the nose. The results of organoleptic tests on the aroma of carrot mud cake can be seen in the following table:




Source: Researcher Data Processing Results, 2020

***Figure 4.*** *Organoleptic Test Results on the Aroma of Mud Cake Carrot*

Based on the organoleptic test on the aroma indicator (Figure 4) the most respondents gave a score of 4 as many as 17 respondents or 56.7% with fragrant criteria. Even though you don't smell the carrot aroma, the carrot mud cake has a typical sweet smell to cakes in general. A total of 11 respondents or 36.7% gave a score of 3 with a slightly fragrant criterion. A total of 1 respondent or 3.3% gave a score of 2 with the criteria of being less fragrant, and as many as 1 respondent or 3.3% gave a score of 1 with the criteria of not being fragrant.

The results of the organoleptic test of the dominant percentage of each indicator can be seen in the following table.

**Table 6.** Organoleptic Test Results Dominant Percentage

| No | engikator | skor | Classification | Percentace Dominant |
|---|---|---|---|---|
| 1 | Race | 4 | Manis savory | 93.3% |
| 2 | Colora | 3 | Myning Orange | 76.6% |
| 3 | Tetexture | 4 | Gluebut Non-porous | 60% |
| 4 | Aromaa | 4 | Fragra | 56.7% |

Source: Researcher Data Processing Results, 2020

Based on table 6, it can be seen that the results of the organoleptic test of the dominant percentage to the taste of the carrot mud cake are 93.3% with a sweet and savory classification. Taste is one of the most important indicators in a food. Food. Which has a good taste will make the audience like the food. The feeling of liking an object will stimulate a person's desire to have, try and develop it.

Based on table 6, it can be seen that the results of the organoleptic test showed that the dominant percentage of the carrot mud cake color was 76.6% with a yellow-orange classification. Food with good colors and attractive can arouse appetite for everyone who sees it. On the other hand, less attractive colors are less appetizing. Color can be used as an indicator of freshness or maturity, whether or not the method of mixing or processing can be marked by the presence of a uniform and even color.

Based on table 6, it can be seen that the results of the organoleptic test have a dominant percentage of the texture of the carrot mud cake by 60% with a soft non-porous classification. Consumers are assets that must be maintained and maintained their existence in order to remain consistent with the products we produce (Romdonny and Rosmadi, 2019).

The texture of the food can be known since the consumer touches the surface of the food. A chewy or soft texture gives a distinct impression. So that this factor is what determines a food favored by a group of people. Based on table 6, it can be seen that the results of the organoleptic test have a dominant percentage of the aroma of carrot mud cake by 56.7% with a fragrant classification.

## V. Conclusion

Based on the results of organoleptic tests on the taste indicators, it can be concluded that there is an effect in adding carrots to the making of carrot mud cake. The sweetness of the carrots gives effect to the carrot mud cake which gives the carrot a distinctive sweetness. Also, the savory taste obtained from coconut milk, makes the carrot mud cake a sweet and savory taste.

Based on the results of organoleptic tests on color indicators, it can be concluded that there is an influence in the addition of carrots in making carrot mud cake. The resulting color of the carrots gives a yellow-orange color to the carrot mud cake, which is usually a bright yellow color for the mud cake.

Based on the results of organoleptic tests on texture indicators, it can be concluded that there is no effect on adding carrots in making carrot mud cake. The resulting texture is the same as the texture of mud cakes in general, which is soft and non-porous.

Even though the texture of the carrot is fibrous, the texture of the carrot mud cake is still soft, not fibrous.

Based on the results of organoleptic tests on aroma indicators, it can be concluded that there is no effect in adding carrots in making carrot mud cake. The aroma produced is the same as the aroma of mud cakes in general, namely the distinctive aroma of cakes.

Based on the results of the organoleptic test, overall respondents liked the carrot mud cake based on the indicators of taste, color, texture, and with the criteria of liking it very much.

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