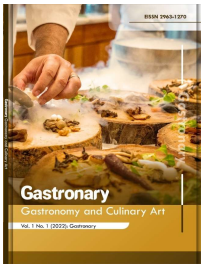

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THE USE SPINACH EXTRACT IN ACEHNESE NOODLES, CANAI BREAD, AND JALA BREAD

***Nonot Yuliantoro[1], Rayyani Hassan[2], Stefany[3], Verellyn Alfenny[4]**
[1]Pelita Haparan University, Tangerang, Indonesia, email: nonot.yuliantoro@learn.uph.edu
[2]Pelita Haparan University, Tangerang, Indonesia, email: rayyani.hassan@gmail.com
[3]Pelita Haparan University, Tangerang, Indonesia, email: chinstefany1705@gmail.com
[4]Pelita Haparan University, Tangerang, Indonesia, email: verellyn93@gmail.com
*(author corespondensi)

ABSTRACT

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The purpose of this research is to make the innovation of spinach extract in the manufacture of Acehnese noodles, canai bread, and jala bread which are typical Acehnese dishes. This research use organoleptic test with 4 indicators namely; texture, color, aroma, and taste. The results of organoleptic test for hedonic test was liked and for hedonic quality test was good quality both limited panelist assessment and consumer panelists. The society will have new knowledge about how to use spinach extract in processing Acehnese cuisine so that this research can be an inspiration for further research. This innovative product brings food from the province of Aceh where there are several cultures from Aceh which are known to use various kinds of spices that are rarely used in cooking in general and also the author tries to evoke and introduce more deeply to the public.

Keyword: : Acehnese Noodles; Canai Bread; Jala Bread; Organoleptic Test.

INTRODUCTION

Indonesia is a maritime country consisting of the Sabang region in the Province of Nanggroe Aceh Darussalam to the eastern tip, namely Merauke in the Province of Papua. Indonesia has several large islands such as Papua Island, Kalimantan Island, Java Island, Sulawesi Island and Sumatra Island. Aceh Province is a province that has a privilege where Aceh is allowed to impose rules or punishments that are different from other regions where it is also called shari'at law (Mukhlis, 2012). Sumatra Island has 10 provinces and a variety of interesting tribes, cultures, and cuisine. Aceh cuisine have a special taste, aroma, also the ingredients used. Aceh have some special foods such as Acehnese noodles, canai bread, and jala bread. Acehnese noodles are one of special foods from Aceh (Apriyani, 2022). Acehnese noodles are a combination food from several countries because the condiments of Acehnese noodles are like noodles originating from China, the sauce tastes like curry from India, and use spices. Acehnese noodles are

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identically with the main ingredient of yellow noodles, usually in Aceh they called "stick noodles". This Acehnese noodles consists of noodles with slices of mutton, beef, or other seafood such as squid and shrimp (Kurniawan, 2020). Noodles are a food product made from wheat flour which is the main raw material for making noodles, namely wheat flour, added water, salt, and eggs (Suci Nur, 2021). In Acehnese noodles the use of spinach extract is used as an aroma, taste, texture, and color enhancer.

The origins of this canai bread are from the influence of Indian food. This canai bread can be found in Aceh and West Sumatra restaurants in Indonesia. Roti canai is one of the specialties of ethnic Acehnese food (Zikri et al., 2018). Canai bread is usually served with a side dish, namely curry sauce, which has a thick texture (Trisno & Manalu, 2019). Yeast is a complex organic material needed in the fermentation process (Putri et al., 2015). In making canai bread, yeast can be replaced with salt for the fermentation process.In canai bread the use of spinach extract is used as an aroma, taste, texture, and color enhancer. Meanwhile, jala bread is also a typical Aceh food which is an adaptation of Malay society adapted from India. Jala bread is usually served with a thick curry sauce, just like canai bread. What distinguishes between jala bread and canai bread is the use of flour so that there are differences in terms of texture, taste and aroma. Canai bread uses high protein flour and jala bread uses medium protein flour. In jala bread the use of spinach extract is used as an aroma, taste, texture, and color enhancer.

This innovative product uses spinach extract because several experiments have been carried out using other extracts, especially the research team tried using starfruit flowers, but the resulting product is not satisfactory because the resulting color is less visible and starfruit is not easy to find in the market. So, the research team chose spinach extract. Because it is not only easy to find in the market at an affordable price but also produces a bright green color in processed Acehnese noodles, rolled bread and jalapeno bread. Green vegetables consist of various types, namely spinach, kale, long beans, broccoli, mustard greens, and others. Green vegetables can be consumed in various ways, namely raw, stir-fried or cooked, as well as as a snack (Utami et al., 2020). Spinach or in Latin is Amaranthus is a shrub and bush plant (Irma, 2016). This plant is rich in mineral salts such as calcium, phosphorus, and iron. In addition, this plant also contains vitamins A, B, and C (Yana et al., 2022).

Spinach is usually used as a cooking ingredient and the leaves can be consumed because they have a soft texture. In addition, spinach is also used as a food coloring, the more spinach is added the color in the food will be green. The color found in plants comes from the pigments in it. Therefore, spinach plants has a very dense color. The are various types of spinach:

Pulled Spinach is spinach that is harvested by pulling all parts of the plant down to the roots. Pulled spinach contains quite high fiber and there are vitamins A, B vitamins, and vitamin C in it. Furthermore, the minerals contained in pulled spinach are calcium, phosphorus and iron (Raksun et al., 2021).

Japanese spinach is a plant that is cultivated using an organic system and contains vitamin K, vitamin A, vitamin C, vitamin B1, vitamin B2, folic acid, and vitamin E. The nature of this spinach is that it is very susceptible to fracture and

damage that causes a decrease in product quality (Diana Br Keliat & Nadapdap, 2020).

Picking spinach is different from pulling spinach, what distinguishes the two is the stature of the plant and how to harvest it. Harvesting picking spinach by picking the tops. Another name for picking spinach is snapper spinach because of the large size of the stems and leaves (Juhaeti & Hidayati, 2014). In this research using Japanese spinach because after doing several trials, Japanese spinach has a more intense green color.

Red spinach or red spinach in English, there are other names in Javanese, namely spinach lemag or spinach sekul and spinach abrit. This spinach is less popular when compared to green spinach for daily consumption. Red spinach contains vitamin C and iron (Suwita et al., 2012).

Of the three types of spinach namely; pulled spinach, Japanese spinach, and duck spinach. The research team chose Japanese spinach from several tests that produced a deep green color, compared to other spinach. With this innovative product, it is hoped that Aceh cuisine will be better known in the wider society, even though there is the addition of spinach extract but still maintains the unique taste of Aceh without changing its authenticity. In this innovation, using spinach extract to make noodles to be processed into Acehnese noodles, canai bread, and jala bread. This innovation of spinach extract is expected to be a substitute for the previous noodles, canai bread, and jala bread.

METHOD

This research was conducted with several experimental stages in the making products before the organoleptic tests. Organoleptic test is a product assessment technique from the human senses to determine the taste of a product (Ayu Dyastuti et al., 2013). Organoleptic tests used in panelists are limited panelists (product evaluations conducted by lectures of Pelita Harapan University) and consumer panelists (product assessments conducted by consumers). Using the hedonic test to determine the preferences of the society and the hedonic quality test to determine product quality. Before the organoleptic test researchers used experimental research methods by added spinach extract to the dough for Acehnese noodles, canai bread, and jala bread to determine the effect of spinach extract on Acehnese noodle, canai bread, and jala bread dough.

The research was conducted in Nenas II street no. 107, Perumnas 1, Karawaci from 07 September 2022 – 13 September 2022.

RESULTS AND DISCUSSION

This research begin with preparing spinach extract and the materials of Acehnese noodles, canai bread, and jala bread. This down below are Acehnese noodles, canai bread, and jala bread with spinach extract used in this research.

This research using organoleptic tests and 4 indicators namely taste, texture, aroma, and color. Questionnaires were distributed to 3 limited panellists and 30 consumer panellists using a Likert scale to give weight to the panellist's answers.

For hedonic test, the ratting was carried out using a test scale with a value of 1 = really dislike, 2 = dislike, 3 = slightly dislike, 4 = like, and 5 = like very much. For hedonic quality test, the ratting was carried out using a test scale with a value of 1 = very low quality, 2 = low quality, 3 = slightly low quality, 4 = high quality, and 5 = very high quality.

TABLE 4
Mean Results Description of the Hedonic Test Limited Assessment of Spinach Extract in Acehnese Noodle, Canai Bread, and Jala Bread

No.	Assessment Aspect	The Use Spinach Extract		
		Jala Bread	Canai Bread	Acehnese Noodle
1.	Texture	4,66	4,33	4,33
2.	Color	4,66	4	4,33
3.	Aroma	4	4	4,33
4.	Taste	4	4	4,33
Mean		**4,33**	**4,08**	**4,33**

Source: Research Results (2022)

From the data above it is evident that the resulting product liked with an for texture with an average mean value for jala bread (4,66), canai bread (4,33), and Acehnese noodles (4,33) because the jala bread has a crunchy texture on the outside and soft on the inside, so the testers liked it. For color with an average mean value for jala bread (4,66), canai bread (4), and Acehnese noodles (4,33) because the jala bread has a bright light green color while the roti canai with the lowest value has a rather pale brownish green color. For aroma with an average mean value for jala bread (4), canai bread (4), and Acehnese noodles (4,33) because Acehnese noodle seasoning is made from spices so it has a distinctive aroma. For taste with an average mean value for jala bread (4), canai bread (4), and Acehnese noodles (4,33) because Acehnese noodles are cooked with spices so they have a thick and distinctive taste. The overall mean for the jala bread (4,33), canai bread (4,08), and Acehnese noodles (4,33). Among the 3 products above that received the highest average result were jala bread (4,33) and Acehnese noodles (4,33), for the lowest average result was canai bread (4,08) the results of all three were liked by the testers.

TABLE 5
Mean Results Description of the Hedonic Quality Test Limited Assessment of Spinach Extract in Acehnese Noodles, Canai Bread, and Jala Bread

No.	Assessment Aspect	The Use Spinach Extract		
		Jala Bred	Canai Bread	Acehnese Noodles

1.	Texture	4,33	4,66	4
2.	Color	4,66	4,66	4
3.	Aroma	4,33	4,66	4,33
4.	Taste	4,66	4	4,33
Mean		**4,50**	**4,50**	**4,17**

Source: Research Results (2022)

From the data above it is evident that the resulting product liked with an for texture with an average mean value for jala bread (4,33), canai bread (4,66), and Acehnese noodles (4) in terms of the texture quality of canai bread has the highest value. For color with an average mean value for jala bread (4,66), canai bread (4,66), and Acehnese noodles (4) the evaluation of Acehnese noodles is the lowest in terms of color because the Acehnese noodles are seasoned so the color of the Acehnese noodles is not too green. For aroma with an average mean value for jala bread (4,33), canai bread (4,66), and Acehnese noodles (4,33) the assessment for canai bread is the highest because it has the aroma of margarine which is liked by the testers. For taste with an average mean value for jala bread (4,66), canai bread (4), and Acehnese noodles (4,33) because the jala bread contains quite a lot of coconut milk so that the taste of coconut milk is liked by the testers. The overall mean for the jala bread (4,50), canai bread (4,50), and Acehnese noodle (4,17). Among the 3 products above that received the highest average result were jala bread (4,50) and canai bread (4,50), for the lowest average result was Acehnese noodle (4,17) the result of the three is a quality product

TABLE 6
Mean Results Description of the Hedonic Test Consumer Assessment of Spinach Extract in Acehnese Noodles, Canai Bread, and Jala Bread

No.	**Assessment Aspect**	**The Use Spinach Extract**		
		Jala Bread	**Canai Bread**	**Acehnese Noodles**
1.	Texture	4,20	4,87	4,97
2.	Color	4,77	4,93	4,83
3.	Aroma	4,93	4,77	4,73
4.	Taste	4,83	4,83	4,90
Mean		**4,68**	**4,85**	**4,86**

Source: Research Results (2022)

From the data above it is evident that the resulting product liked with an for texture with an average mean value for jala bread (4,20), canai bread (4,87), and aceh noodles (4,97). For color with an average mean value for jala bread (4,77), canai bread (4,93), and aceh noodles (4,83). For aroma with an average mean value for jala bread (4,93), canai bread (4,77), and aceh noodles (4,73). For taste with an average mean value for jala bread (4,83), canai bread (4,83), and aceh noodles (4,90). The overall mean for the jala bread (4,68), canai bread (4,85), and acehnese noodles (4,86). Among the 3 products above that received the highest average result was Acehnese noodles (4,86). For the lowest average result was jala bread (4,68).

TABLE 7
Mean Results Description of the Hedonic Quality Test Consumer Assessment of Spinach Extract in Acehnese Noodles, Canai Bread, and Jala Bread

No.	Assessment Aspect	The Use Spinach Extract		
		Jala Bread	Roti Canai	Acehnese Noodles
1.	Texture	4,67	4,73	4,80
2.	Color	4,77	4,73	4,83
3.	Aroma	4,77	4,80	4,83
4.	Taste	4,80	4,77	4,77
Mean		**4,75**	**4,76**	**4,81**

Source: Research Results (2022)

From the data above it is evident that the resulting product liked with an for texture with an average mean value for jala bread (4,67), canai bread (4,73), and Acehnese noodles (4,80) because people like the texture of the noodles al dente. For color with an average mean value for jala bread (4,77), canai bread (4,73), and Acehnese noodles (4,83) because the color of the Acehnese noodles combined with spices looks attractive to the public. For aroma with an average mean value for jala bread (4,77), canai bread (4,80), and Acehnese noodles (4,83) because people like the aroma of spices in Acehnese noodles. For taste with an average mean value for jala bread (4,80), canai bread (4,77), and Acehnese noodles (4,77) because jala bread contains quite a lot of coconut milk with a taste that people like. The overall mean for the jala bread (4,75), canai bread (4,76), and Acehnese noodles (4,81) . Among the 3 products above that received the highest average result was canai bread (4,76). For the lowest average result was Acehnese noodles (4,81) from these three products are liked by the public.

PICTURE 1

Acehnese Noodles
Source: Research Results (2022)

PICTURE 2

Canai Bread
Source: Research Results (2022)

PICTURE 3

Jala Bread
Source: Research Results (2022)

CONCLUSION

Test and hedonic quality test. This test aims to make the product liked and of good quality in the community. From the organoleptic test results, this innovative product was liked and good quality in terms of texture, color, aroma and taste. Research on the use of spinach extract in processed Aceh cuisine, namely in Acehnese noodles, canai bread, and jala bread become an inspiration for conducting further research by adding spinach extract mixing with other extracts to the product to be studied.

From the existing data it proves that roti jala, roti canai, and aceh noodles which are added with spinach essence get a average score is 4 which is tested by hedonic

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