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UTILIZATION OF GREEN SPINACH JUICE IN MAKING ROLLED OMELET

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Abstract

Dadar roll is one of the traditional Indonesian snacks commonly found in traditional markets. Spinach contains lots of Vitamins A and C and a little Vitamin B. Spinach also contains important mineral salts such as calcium, phosphorus, and iron. The research method used is experimental research with the experimental design carried out is a Complete Randomized Design with 3 treatments. The highest average value is indicated by treatment C in terms of color, aroma, texture, and taste. Treatment C is made from rolled omelet with 100gr green spinach + 550cc water (600cc spinach juice). It can be implied that the best C treatment is preferred by the panelists. With an assessment in terms of color, treatment C is the most preferred sample with a mean value of 4.80. In terms of aroma, treatment C is the most preferred sample with a mean value of 4.56. In terms of texture, treatment C is the most preferred sample with a mean value of 4.24. And in terms of taste, treatment C is the most preferred sample with a mean value of 4.28.

Keywords**:** *Rolled omelette; Spinach; Spinach juice.*

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INTRODUCTION

Dadar gulung is one of the traditional Indonesian snacks commonly found in traditional markets (Hashim et al., 2020). Rolled omelets and pancakes have almost the same name but there are differences in the basic ingredients in their manufacture, for making omelet cakes only use rice flour in the dough. While making rolled omelets use several ingredients that are usually used to make steamed sponges. For the similarity of these two traditional snacks is only in the use of coconut. In rolled omelets, coconut is used as the filling only (Prasastono et al., 2022) (Rajah, 2012).

Spinach is a vegetable that contains nutrients needed by the body, one of the fibers that are indispensable in the daily diet (Kumar et al., 2020) (Randhawa et al., 2015) (Sharoba, 2014). Spinach is one type of vegetable made from local food that is easily obtained (Pajević et al., 2018). In Indonesia, only two types of cultivated spinach are known, namely Amaranthus Hybridus (often called snapper spinach, year spinach, picked spinach, tutus spinach, peg spinach, and planted as picked spinach) and Amaranthus Tricolor (pulled spinach, consisting of two varieties, green spinach, and red spinach) (Rianto & Ahmad, 2017).

Spinach is one of the plants with high adaptation power in various ecosystems. This is because spinach has a C4 photosynthesis pathway, the efficiency of the process of increasing CO2 gas under high-temperature conditions or low water content. Spinach can be propagated by seeds that do not have a dormancy period (atrophy state experienced by living organisms), and are small, light, and large in number so that it is easily spread (Zuryanti et al., 2016).

Spinach contains lots of Vitamins A and C and a little Vitamin B. Spinach also contains important mineral salts such as calcium, phosphorus, and iron. Iron contained in spinach serves as a central regulator of hemoglobin molecules of red blood cells (Godswill et al., 2020). Hemoglobin plays a role in distributing the course of oxygen from the lungs throughout the body (Safitri, 2019).

Based on this background, this experimental research was carried out using green spinach juice as a substitute for food coloring in making rolled omelets to analyze the Organoleptic/hedonic test on breast rolls using green spinach juice.

METHOD

The object in this study was spinach juice rolled omelet with different amounts of spinach leaves (100 grams, 150 grams and 200 grams).

The independent variable in this study was the amount of leaf juice with different spinach concentrates using spinach as much as:

a. 200 grams spinach + 500cc water (600cc spinach juice)
b. 150 grams spinach + 525cc water (600cc spinach juice)
c. 100 grams spinach + 550cc water (600cc spinach juice)

Related variables in this study are sensory quality which includes color, taste, texture and final color of spinach rolled omelet in the best experimental results.

The research method used is experimental research with the experimental design carried out is a Complete Randomized Design with 3 treatments:

1. Treatment A making rolled omelet with 200 gr green spinach + 500cc water (600cc spinach juice)
2. Treatment B Make a rolled omelet with 150 gr green spinach + 525cc water (600cc spinach juice)
3. Treatment C making a rolled omelet with 100 gr green spinach + 550cc water (600cc spinach juice)

There are 2 methods used, objective assessment and subjective assessment. Objective assessment is the assessment of Fe content. The subjective assessment was conducted by organoleptic/hedonic tests on the taste, texture, color, and physical appearance of rolled omelets with green spinach juice by 25 panelists not trained (untrained panel). The assessment of the hedonic test is expressed on a numerical scale with the following criteria:

1. Very fond: 5
2. Very like 4
3. Likes : 3
4. Quite like 2
5. Neutral: 1
6. Dislike : 0

Rolled omelet level with green spinach juice

Material

Rolled omelet leather

1. 100-200 gr spinach
2. 150 gr wheat flour
3. 500-550cc air
4. 1/2 teaspoon salt
5. 1/2 tablespoon butter
6. 1 chicken egg

Stuffing

1. Grated coconut
2. Brown sugar
3. 1/2 teaspoon salt

Manufacturing Process

Put all the ingredients for the rolled omelet filling into Teflon over low heat, stir evenly all the ingredients until cooked, then add and transfer to another container.

1. Put spinach leaves and water in a blender to mash, then strain to take the juice only.
2. Put wheat flour, salt, eggs, and spinach juice into 1 container, then mix well all the ingredients with a mixer.
3. Put spinach juice into the dough that has been

previously stirred until it produces a green color and all the ingredients are mixed
4. Prepare hot Teflon over low heat
5. Pour the dough on the Teflon and flatten it
6. Wait for it to cook and drain it in another container
7. Fill the rolled omelet with pre-prepared using

Data Analysis

Data analysis was performed using one-way variance analysis (ANOVA) with the SPSS 21 program. The average difference between each treatment was determined by the Duncan test. P or sig values (< 0.05) are considered to have statistically significant differences.

RESULTS AND DISCUSSION

Based on the results of objective assessments carried out with Fe content assessments that there is Fe content in 100g green spinach + 550cc water (600cc green spinach juice) amounting to 4.39mg.

Based on the results of the subjective assessment conducted with organoleptic/hedonic tests on 3 treatments in terms of color, aroma, texture, and taste can be seen in Figure 1. The highest average value is indicated by treatment C in terms of color, aroma, texture, and taste. Treatment C is made from rolled omelet with 100gr green spinach + 550cc water (600cc spinach juice).

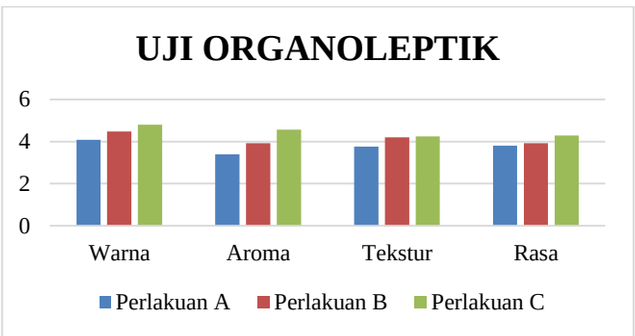

Figure 1. Organoleptic Test Results 3 treatment

The panelists' assessments were analyzed with the SPSS 21.0 program using one-way ANOVA. The ANOVA test table obtained a sig (P) value of < 0.05, meaning that there are significant differences between the three treatments in terms of color, aroma, and texture. Furthermore, the ANOVA test table obtained a sig (P) value of > 0.05 meaning that there was no significant difference in taste between the three food treatments. ANOVA test results are presented in Table 2.

Table 2. ANOVA Omelet Roll of Green Spinach Juice

	Sum of Squares	df	Mean Square	F	Itself.
Color					
Between Groups	6,507	2	3,253	11,665	,000
Within Groups	20,080	72	,279		
Total	**26,587**	**74**			
Aroma					
Between Groups	16,880	2	8,440	17,873	,000
Within Groups	34,000	72	,472		
Total	**50,880**	**74**			
Texture					
Between Groups	3,547	2	1,773	3,855	,026
Within Groups	33,120	72	,460		
Total	**36,667**	**74**			
Taste					
Between Groups	3,120	2	1,560	2,503	,089
Within Groups	44,880	72	,623		
Total	**48,000**	**74**			

Duncan's advanced test provides real different formula information presented in Table 3. The results of uji Duncan found that the sample of green spinach juice rolled omelet had a significant difference between treatment A with treatment B and C in terms of color. Of the three treatments that panelists prefer is treatment C because the meth value is greater.

The results of the Duncan test are known that there is a significant difference between treatment A and treatments B and C in terms of aroma. Of the three treatments that panelists prefer, is treatment C because the mean value is greater.

The results of the Duncan test are known that there is a significant difference between treatment A and treatments B and C in terms of texture. Of the three treatments that panelists prefer, is treatment C because the mean value is greater.

Table 3. Test Duncan Dadar Roll Sari Green Spinach

Treatment	Color	Aroma	Texture	Taste
A	4,08a	3,40a	3,76a	3,80a
B	4,48b	3,92b	4,20b	3,92from
C	4,80c	4,56c	4,24b	4,28c

The results of the Duncan test are known that there is no significant difference between the three treatments in terms of taste. Of the three treatments, the more Preferred Preferred panelists are treatment C because the value mean is greater.

CONCLUSION

Based on the results of organoleptic/hedonic tests that have been carried out on all three samples. It can be implied that the best C treatment is preferred by the panelists. With an assessment in terms of color, treatment C is the most preferred sample with a mean value of 4.80. In terms of aroma, treatment C is the most preferred sample with a mean value of 4.56. In terms of texture, treatment C is the most preferred sample with a mean value of 4.24. And in terms of

taste, treatment C is the most preferred sample with a mean value of 4.28.

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