

# Characteristic of Salak Seed Coffee with French Press Brewing Method Through Organoleptic Test

Ni Luh Suastuti<sup>1</sup> (suastuti@gmail.com)

Ni Kadek Eni Juniari<sup>2</sup> ([enijuniari@gmail.com](mailto:enijuniari@gmail.com))

Ni Made Wiwin Widiastuti<sup>3</sup> (wiwin902@gmail.com)

Bali Tourism Institute (Sekolah Tinggi Pariwisata Nusa Dua Bali)

## ABSTRACT

Karangasem Regency is a district located in the eastern part of Bali Province which is one of the tourist destinations and has its uniqueness and potential. Karangasem Regency is located in the highlands that is famous for its plantation products. One of the popular plantation areas in Karangasem Regency is the salak producing area in Sibetan Village. The high production of salak fruit makes the community of Sibetan Village make a variety of processed foods from salak fruit as souvenirs for tourists. Processing of salak fruit as souvenirs also produce waste in the form of salak seeds which are then prepared by one of the residents of Mr I Nyoman Mastra to be used as a drink that is suitable for consumption and has a selling value, which is a coffee drink called Salak Seed Coffee. Salak seed coffee is expected to be one of the typical souvenirs from Sibetan Village which can later become one of the tourism brand images from Sibetan Village Karangasem. To increase the added value of salak seed coffee, it is necessary to test the characteristics of this coffee.

The purpose of this study was a) to determine the characteristics of salak seed coffee in Sibetan Village Karangasem using the French Press brewing method, b) to determine the level of panelists preference for salak seed coffee. By knowing the characteristics of salak seed coffee, it is hoped that later can help provide added value to the salak seed coffee. The panelists of this study consisted of 5 panelists who had the expertise and talent regarding the characteristics of the coffee (Barista), five panelists (academics) who had good sensitivity in assessing some specific stimuli, and five panelists who liked or enjoyed coffee. The analysis technique used is descriptive qualitative, data through organoleptic tests on aspects such as Fragrance, Flavor, Aftertaste, Acidity, Body, Sweetness, and Balance following the Standards of Specialty Coffee Association of America (SCAA). To obtain the results of organoleptic testing, it was carried out through descriptive tests and hedonic tests. The detailed analysis is a sensitive method on beverage attributes that are identified and measured using human subjects who have been specially trained, while hedonic testing is a test in the organoleptic sensory analysis used to determine the level of preference of a product.

The results of the descriptive test, which uses seven indicators (Fragrance, Flavor, Aftertaste, Acidity, Body, Sweetness, Balance) found that the salak seed coffee has the characteristics of salak, earthy, nutty, and low acidity. While the results of the research from the hedonic test, which uses seven indicators (Fragrance, Flavor, Aftertaste, Acidity, Body, Sweetness, and Balance) it was found that the level of the panelists' preferences for salak seed coffee was 2.63, is at the level of likes. This research implies that salak seed coffee can be an alternative drink that is very suitable to be offered to tourists who want to enjoy coffee with low caffeine content and become one of the typical souvenirs from Sibetan Village.

**Keywords: Characteristics of Coffee, Coffee Beans, Organoleptic Test**

## INTRODUCTION

Lately enjoying a cup of coffee has become part of the lifestyle of the urban community. Based on this trend, coffee is currently the second most consumed beverage in Indonesia. Coffee has a distinctive aroma and contains high caffeine compounds. This caffeine content in certain conditions will cause coffee not to be enjoyed, so there are several alternative types of coffee made from certain plant grains. One of the seeds of a potential plant is salak seeds. Karangasem Regency is one of the regencies that are famous for their salak fruit plantations. One of the renowned salak plantations in Karangasem Regency is located in Sibetan Village. The high production of salak fruit makes the people of Sibetan make various processed foods from salak fruit as souvenirs for tourists. Processing of salak fruit as a by - also produces waste in the form of salak seeds which are then processed by one of the residents of Mr I Nyoman Mastra to be used as a drink that is suitable for consumption and has a selling value, which is a coffee drink called Kopi Biji Salak. Salak seed coffee is expected to be one of the typical souvenirs from Sibetan which can later become one of the tourism brand images from Sibetan Karangasem Village.

The purpose of this study was to determine the characteristics of salak seed coffee in the village of Sibetan Karangasem Bali by using the french press method and to determine the level of panelists preference for salak seed coffee so that it can be one of the drinks offered to tourists and become one of the typical souvenirs from Sibetan village. The analysis technique used in the discussion was the analysis of qualitative descriptive data, where data was collected through panellists by organoleptic testing (descriptive test and hedonic test) by looking at aspects such as according to the Specialty Coffee Association of America (SCAA) Standards. To obtain the results of organoleptic testing, it was carried out through descriptive tests and hedonic tests. The detailed examination is a sensitive method of beverage attributes that are identified and measured using specially trained human subjects. The comprehensive review is one of the references to determine the characteristics of salak seed coffee. While the hedonic test is a test in the organoleptic sensory analysis that is used to determine the level of preference of a product

## DISCUSSION

According to Wiantara (2016: 96) suggests that coffee is a type of non-alcoholic beverage made from coffee beans which have been selected and undergone a roasted process and then brewed to form coffee grounds. According to Stephenson (2015: 64- 65), there are several essential flavors in a coffee drink, including Sweetness, Bitterness, Acidity, Aroma. Whereas according to the Specialty Coffee Association Standards of America (SCAA) assessment of Organoleptic Test of coffee drinks consists of Fragrance, Flavor, Aftertaste, Acidity, Body, Sweetness, Balance. There are various methods of serving coffee, different ways of serving will produce different coffee flavors. One purpose of serving coffee that is currently popular is the manual brew method, which a coffee brewing technique is using a tool operated manually by a barista. The manual brew method consists of French Press, Hario V60, Kalita Wave, Aero Press, Chemex, Bialetti or Moka Pot, Vietnam Drip, Siphon and Rok Press. French Press is the choice for brewing from salak seed coffee because it produces delicious coffee with intense flavor and without pulp.

Coffee has a distinctive aroma and contains high caffeine compounds. This caffeine content in certain conditions will cause coffee not to be enjoyed, so there are several alternative types of coffee made from certain plant grains. One of the seeds of a potential plant is salak seeds. Salak seed coffee is one of the findings that can be said to be new because there are not many people who know about salak seed coffee which resembles ordinary brewed coffee. Based on preliminary observations regarding salak seed coffee, it is necessary to research to determine the characteristics and level of preference for the salak seed coffee. The panelists of this study consisted of 5 panelists who had the expertise and talent regarding the aspects of the coffee (Barista), five panelists (academics) who had good sensitivity in assessing some specific stimuli, and five panelists who liked or enjoyed coffee.

## Salak Seed Coffee Processing Process

### 1. Selection of Salak Seeds

The variety of salak seeds which will be used as salak seed coffee is seen from the maturity of the salak which is then taken by the whole black grains. Then the seeds were soaked for four hours to remove the yellow fungus on the seed.

### 2. Cutting Salak Seeds

After the immersion was carried out, then cutting the salak seeds using cutting tools containing a small knife

### 3. Drying of Salak Seeds

After the salak seed is cut into small pieces, then the grain is dried for several days

### 4. Roasting

After drying it is then carried out roasting on the fragments of salak seed done for 25 minutes. And then proceed with milling and filtering of the grain. So the results can be very smooth.

### 5. Coffee Salak Seeds

From the above stages, the results of the salak seed coffee are very smooth and ready to be packaged.

## Work procedures

Work procedure is a series of work execution in sequence so that a work arrangement is formed to be able to complete a job. Work procedures include the preparation of tools and equipment, preparation of materials, research locations, and work methods. The work procedures in the testing of organoleptic tests are as follows:

### a. Prepare a form

There are two types of styles used: descriptive test forms and preference test forms. In the descriptive test and a test of preference used seven indicators as an assessment of the salak seed coffee which will be filled by each panelist.

### b. Panelists Determination

This test was carried out by 15 panelists including 4 men and 1 woman as baristas, 2 male lecturers and 3 female lecturers from Food and Beverage Management Division who had more knowledge about coffee, as well as 4 men and 1 female panelist are instead trained as fans or connoisseurs of drinking coffee, and observed directly by researchers.

### c. Preparation of tools and equipment

The equipment used in the organoleptic test is following the equipment procedure with the French press method. Starting from a portable gas stove that serves as a water heater, kettle as a container of water heater, thermometer to measure the temperature of the heat in the water inside the pot, espresso cup as a container when serving salak seed coffee to a panelist, saucer that serves as a base for espresso cup, digital coffee scale which is used as a measuring tool for coffee and water to fit the dose, french press as a coffee maker / brewing agent.

## Objects observed

Observations carried out were organoleptically carried out by testing the description of the indicators as follows:

### a. Fragrance / aroma

- 1) Salak Fruit: salak fruit aroma

- 2) Coffee Bean: the aroma of coffee beans
- b. Flavor
  - 1) Sweet: the sweet taste felt in the mouth
  - 2) Floral: feels like a floral scent
  - 3) Fruity: the taste of fruits felt in the mouth
  - 4) Sour: a more dominant sour taste
  - 5) Nutty / Cocoa: the dominant bean / chocolate flavor
- c. Aftertaste
  - 1) Finish: the taste is left very briefly and instantly disappears
  - 2) Long Aftertaste: the taste left in the mouth feels long
  - 3) Clean: the feeling left is tasteless
- d. Acidity
  - 1) High: high sour taste
  - 2) Medium: ordinary sour taste
  - 3) Low: low sour taste
- e. Body
  - 1) Heavy: strong coffee flavor
  - 2) Medium: average coffee flavor
  - 3) Thin: light coffee flavor
- f. Sweetness
  - 1) Sweet Aromatic: flavorful sweetness
  - 2) Black Tea: a taste of black tea
  - 3) Vanilla: vanilla taste
  - 4) Brown Sugar: the flavor of brown sugar
- g. Balance
  - 1) Good: a good sense of balance
  - 2) Average: the usual balanced taste
  - 3) Poor: a lousy sense of balance

**Organoleptic Test Results**

**Descriptive Test Analysis**

The following is the result of the tabulation of data from the results of the organoleptic test, namely the definitive test by the panelists on the salak seed coffee, so to look for the characteristics of the salak seed coffee, the following

$$\text{Formula} = \frac{\text{Assessment Results of Each Indicator} \times 100\%}{\text{Number of Panelists}}$$

So that it can be obtained a descriptive recapitulation of the characteristics of salak seed coffee which can be seen in Table 3.7

**Table 3.7. Descriptive Test Research Results Coffee of Salak Seeds Using French Press Method**

No	Indicator	Assessment of	Total Amount of	Percentage Outcome	Top Value
1	Fragrance/ Aroma	Salak Fruit	6/15*100%	40%	Salak Fruit
		Coffee Bean	5/15*100%	33%	
		Others	4/15*100%	26%	
2	Flavor	Sweet	0/15*100%	0%	Earthy
		Floral	2/15*100%	13%	
		Fruity	2/15*100%	13%	
		Sour	3/15*100%	20%	
		Nutty/Cocoa	3/15*100%	20%	
3	Aftertaste	Finish	5/15*100%	33%	Clean
		Long Aftertaste	3/15*100%	20%	
		Clean	7/15*100%	46%	
		Others	0/15*100%	0%	
		Earthy	5/15*100%	33%	
4	Acidity	High	0/15*100%	0%	Low
		Medium	7/15*100%	46%	
		Low	8/15*100%	53%	
		Others	0/15*100%	0%	
5	Body	Heavy	1/15*100%	6%	Thin
		Medium	5/15*100%	33%	
		Thin	9/15*100%	60%	
		Others	0/15*100%	0%	
6	Sweetness	Sweet Aromatic	0/15*100%	0%	Black Tea
		Black Tea	8/15*100%	53%	
		Vanilla	3/15*100%	20%	
		Brown Sugar	1/15*100%	6%	
		Others	3/15*100%	20%	
7	Balance	Good	4/15*100%	26%	Average
		Average	9/15*100%	60%	
		Poor	2/15*100%	13%	
		Others	0/15*100%	0%	

Source: Organoleptic Test 2018 (data processed)

Based on the results of the analysis of the definitive test, using the seven indicators in the table above obtained the characteristics of the salak seed coffee which began in the first indicator, namely fragrance/aroma of salak seed coffee which received the highest score by the panelists as much as 40% were salak fruit. Furthermore, the flavor indicator that gets the highest score of 33% is earthy. The aftertaste indicator that receives the highest score of 46% is clean. On the acidity indicator, the highest score of 53% is low. In the body indicator that receives

the highest score as much as 60% is thin. In the sweetness indicator, the highest score of 53% is black tea. And the last on the balance indicator that gets the highest score of 60% is average. It's can be said that salak seed coffee has salak fruit, earthy, nutty, low acidity characteristics.

**Analysis of Hedonic Tests**

The following is the result of the tabulation of data from the results of the organoleptic test, namely the proof of preference by panelists on salak seed coffee.

**Table 3.6. Preference Test Results by Panelists Towards Salak Seed Coffee**

Panelists	Indicator						
	Fragrance/ Aroma	Flavor	After Taste	Acidity	Body	Sweetness	Balance
Panelist 1	3	0	3	3	3	1	3
Panelist 2	3	2	4	1	2	1	2
Panelist 3	2	1	1	1	1	1	1
Panelist 4	4	3	2	2	3	3	3
Panelist 5	4	2	2	3	3	2	3
Panelist 6	2	2	0	3	3	3	3
Panelist 7	2	3	1	1	2	2	3
Panelist 8	4	5	4	3	3	4	4
Panelist 9	4	3	2	3	3	2	4
Panelist 10	4	4	4	4	4	4	4
Panelist 11	3	3	3	4	3	3	4
Panelist 12	3	3	3	3	4	3	3
Panelist 13	1	3	5	0	0	1	0
Panelist 14	2	3	3	2	3	4	3
Panelist 15	1	2	2	3	3	2	3
<b>Total</b>	<b>42</b>	<b>39</b>	<b>3</b> <b>9</b>	<b>36</b>	<b>40</b>	<b>37</b>	<b>4</b> <b>3</b>

Source: Organoleptic Test 2018

Based on the results of the recapitulation of the test of salak seed coffee preference, to find the mean value of the test results of the preference of salak coffee beans can use the formula. The calculation is done by classifying the score according to the class interval as follows:

$$Ci = \frac{R}{K} = \frac{5}{6} = 0.83$$

Information :

R = Range

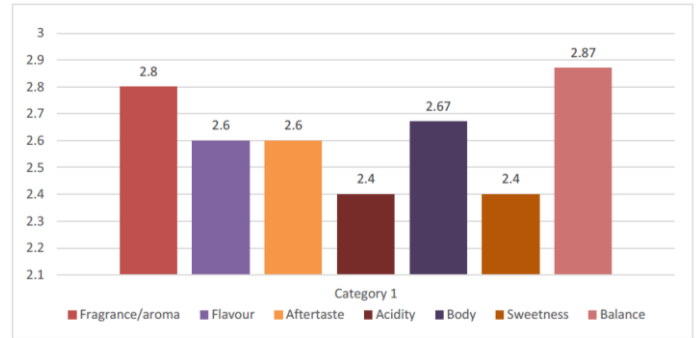
K = Number of Classifications

Ci = Distance of Class Interval

From the above calculation, the class interval is as follows:

1. 0 to ≤ 0.83 = Dislike
2. 0.83 to ≤ 1.66 = Neutral
3. 1.66 to ≤ 2.49 = Rather like
4. 2.49 to ≤ 3.32 = Like
5. 3.32 to ≤ 4.15 = Very Likes
6. 4.15 to 5.00 = The Most Like

To make it easier to see the results of the analysis from the preference test, using seven indicators can be seen in the graph below:



**Figure 3.2. Preference Test Chart of Salak Seeds Coffee**

Source: Organoleptic Test 2018 (data processed)

Based on the above tables and diagrams, the panelists personal level of salak seed coffee is as follows:

1. **Fragrance / aroma:**  
Based on the mean value of the test results of preference, the panelist gives a value for the fragrance/aroma indicator of salak seed coffee with a value of 2.8 in the category of I
1. **Flavor:**  
According to the test results of preference on the flavor indicator, the panelist stated that they liked the taste of salak seed coffee and gave a value of 2.6.
2. **After Taste:**  
Based on the mean value of the test results of preference, on the aftertaste indicator, panelists give a value of 2.6, in the category of like
3. **Acidity:**  
Based on the mean value of the preference test results on the acidity indicator, the panelist gives a value of 2.4 which is in the rather like category
4. **Body:**  
Based on the mean value of the preference test result on the body/texture indicator that was felt by the panelists from the salak seed coffee bark rated 2.67 was on the category like
5. **Sweetness:**  
Based on the mean value of the results of the preference test on the indicator of sweetness, panelists give a value of 2.4 which is in the rather like category

#### 6. Balance:

Based on the mean value of the test results of preference on balance indicator, the panelist gives a value of 2.87 which is in the group of likes.

Based on the results of the preference test in the diagram above, the tabulation results obtained which stated that the average value of the panelists preference for salak seed coffee is at 2.63 which is included in the category of likes. This shows that the salak seed coffee can be accepted by consumers and deserves to be consumed and marketed to tourists which can later become one of the tourism brands image from Sibetan Village Karangasem.

### CONCLUSION

Based on the results of the descriptive test and Likert scale calculation on the hedonic analysis it can be concluded that the characteristics of salak seed coffee on fragrance/aroma indicator have features of salak fruit, on flavor indicator has earthy elements, the aftertaste indicator has clean features, the acidity indicator gets low acidity characteristic, on the body indicator has the characteristics of thin, the sweetness indicator receives the components of black tea, and the balance indicator gets the average characteristic. While the level of preference is in the category of likes with an average value of 2.63, with a description of the preferred indicator consisting of fragrance/aroma, flavor, aftertaste, body, balance, and somewhat approved signs comprising of acidity and sweetness. Based on the results of research on salak seed coffee, it is expected to have a positive implication, namely that salak seed coffee can be an alternative drink that is very suitable to be offered to tourists who want to enjoy coffee with low caffeine content and become one of the typical souvenirs of Sibetan Village. This research is also expected to make Sibetan Village as one of the agrotourism villages in Karangasem Regency.

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