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Study of Characteristics Cooked Salt Traditional in Rabasa Haeran Village of West Malaka District and Weoe Village of Wewiku District of Malaka, Indonesia

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ABSTRACT

Salt is a chemical compound whose main components are sodium chloride (NaCl), water compounds, magnesium ions, calcium ions, and sulfate ions. In salt production generally no equipment is used or high technology is not adepted. The manufacturing process used firewood in a furnace, and the salt that is produced is then dried on a pottery tray made from palm leaves or *nyiru panjang* which is called *socal* by the local community before being put into sack packaging. The purpose of this study was to determine the characteristics of cooking salt from Rabasa Haerain village and Weoe village. This study was conducted in June-August 2019. Chemical tests were done at the Technical Implementation Unit of Mathematics and Natural Sciences Laboratory Widya Mandira University for water content and NaCl; and the organoleptic testing for color and aroma tests was done at the Exacta Laboratory of Artha Wacana Christian University. The results showed the average value of saltwater produced traditionally from the two villages in the Malaka District content in Rabasa Haerain village was the highest average of 13.61% while the lowest is 10.55% found in Weoe village. The highest average value of NaCl was 78.45%, namely in Weoe Village and the lowest was 73.93%, of Rabasa Haerain village. The average value for color organoleptic produced by both villages is 100, the lowest average color value is 33.33, in Rabasa Hairaen village and the highest is 66.67, that was found in Weoe village. The average value of aroma organoleptic produced by both villages is 100, the lowest average value is 46.47, that is in Weoe village and the highest was 53.33 in Rabasa Haerain village.

Key words : *Salt, Chemistry, Organoleptic, Water content*

Introduction

Salt is a chemical compound whose main components contain sodium chloride (NaCl), water compounds, magnesium ions, calcium ions, and sulfate ions. Besides salt is also a commodity that is very important for people's lives for consumption. Salt is much needed in several industries, including for preservation and chemical mixtures (Rismana *et al.,* 2014). The components have an important role in the human body, so it is necessary to consume salt in the right size to support human health. Salt consumption per person per day is estimated at around 5-15 g or 3 kg per year per person (Amalia, 2007). In

general, the community salt does not use equipment or high technology. The community produces salt by evaporating seawater and is accommodated in salt ponds, dried with the help of wind and sunlight then the ground is scratched and collected in a container provided by the local community. Before cooking salt is filled in 15 kg capacity sacks of salt are cooked and dried (Kabul, 2011). Cooked salt is produced by the people of Rabasa Haerain Village and Weoe Village, Malacca Regency. Fuel for the manufacturing process uses wood in a furnace fire, and the produce is drained on woven from palm leaves or nyanjan panjan called "socal" by the local community before being put into sack packaging. The processing of cooking salt in both villages uses species.

Materials and Methods

The main materials in this study: include tools that are used for salt production in Malacca Regency: flat zinc, storage containers (baskets), filters, machetes, buckets, shovels, rakes, and carpets (15 kg capacity), and questionnaires, while the tools used for testing water content, and NaCl: measuring flask, pipette, pH meter, filter paper, oven, desiccator, porcelain cup, clamp, furnace, analytical balance, 5 ml microburst, and Erlenmeyer. The same raw material is pond land found in each village. Although the types of raw materials used are the same, the type and amount of water used for filtering are different. Rabasa Haerain village uses 80 liters of brackish water while in Weoe village 75 brackets use brackish water. In addition, the cooking time is also different, for Rabasa Haerain village it takes 4-5 hours to cook, and in Weoe village it takes 3-4 hours. Communities in both villages have been producing salt for a long time, but there is no information about the quality of water content and NaCl levels found in traditional cooking salt. The materials used in this research include materials used for salt production: brackish water, pond land and firewood, while materials used for testing moisture content and NaCl are: salt produced from farmers.

Research procedure

The research Procedure uses a quantitative descriptive qualitative method. Qualitative research includes survey methods and field observations, including sampling techniques as much as 2 kg for each village in the location of cooking salt and cooking salt-making techniques to the process, while the quantitative method used in this study is the testing method in the Laboratory. The variables studied/observed in traditional salt produced traditional by salt farmers in Rabasa Haerain Village, West Malaka District and Weoe Village, Wewiku District, Malaka Regency were water content, NaCl, and organoleptic.

Results and Discussion

Folk Salt Production From Both Different Villages Rabasa Haerain Village, West Malaka District

The process of cooking salt at Rabasa Haerain Village begins with preparing raw materials in the form of 40 kg (1 sack) of ground salt. Dissolved using 80 liters of water for 1 hour. After that, the water is left for 30 minutes so that the water is clear, and cooked using hot coals for 4-5 hours. Salt that process can produce finer crystals will be dried (melted) for 1 hour then packed in 15 kg sacks. In Weoe Village, the cooking of salt by the Weoe villagers is slightly different from Rabasa Haerain village. The cooking process begins by preparing 40 kg of raw salt in the form of ground salt, then drying 75 liters of brackish water for 1 hour. After that, the water is left for 30 minutes so that the water is clear, and the water is cooked using hot coals for 3-4 hours. Processed salt can produce finer crystals which will be dried (melted) for 1 hour and then packed in a 15 kg sack.

Water content

The average of cooking salt water produced traditional from the two villages in Malacca District with the highest average value of 13.61% for Rabasa Haerain village and the lowest average 10.55% from Weoe village. Comparing the average of salt water content with iodized consumption salt quality requirements (SNI 3556-2016) and raw material salt quality requirements for iodized consumption salt (SNI 4435-2017) with a maximum water content value of 7%. Profiles of the average saltwater content of the two villages that process salt traditionally in Malaka Regency and SNI can be seen in Figure 1.

Figure 1 shows the average saltwater content of the two cooking salt processing villages traditional in Malaka District resulting in a fairly high average water content of the quality requirements of iodized consuming salt (SNI 3556-2016) and the salt quality requirements for raw materials for consumption salt

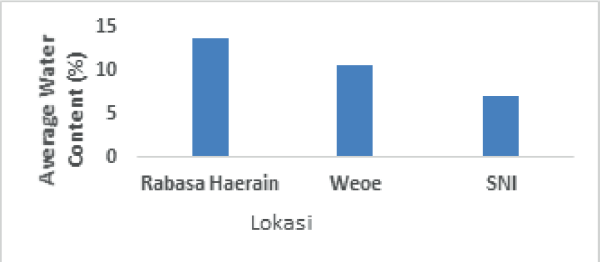

Fig. 1. Profile of Average of Salt Water Content of Both Villages that Process Salt Traditional in Rabasa Haerain Village and Weoe Village, Malaka Regency and SNI (3556-2016 and 4435-2017).

iodized (SNI 4435-2017). The results of testing, the average of the water content of the two villages were different because it was suspected that the salt production carried out by the two villages was different, especially in the use of water to dissolve salt in Rabasa Haerain Village higher than Weoe Village.

NaCl levels

The average of NaCl levels in traditional salt produced from the two villages in Malaka District, the highest at 78.45% for Weoe village and the lowest at 73.93% for Rabasa Haerain village. Comparison of the profile of the average value of NaCl levels in salt from the two villages that process salt traditional in Malaka Regency and SNI 4435-2017 can be seen in Figure 2.

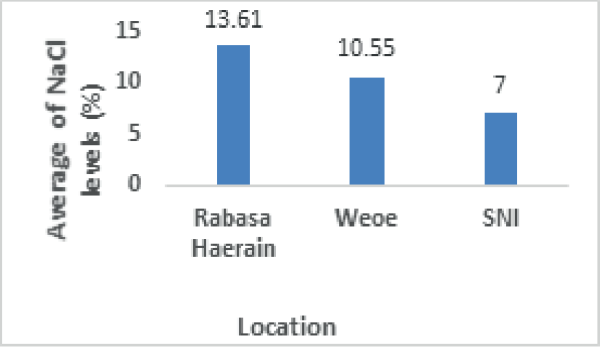

Fig. 2. shows the average NaCl levels of Rabasa Haerain and Weoe villages have not yet reached SNI standards.

The above results show that the Rabasa Haerain village has a lower NaCl value than the Weoe village. This is in accordance with the average of the water content produced, the more water content that evaporates during the heating/cooking process, the NaCl levels contained in the garage more and more. Weoe Village uses the salt heating process longer than Rabasa Haerain Village so that the NaCl levels produced by Weoe Village are higher than Rabasa Haerain Village. Figure 2, Profile of the Average NaCl Levels in Salt from Both Villages that Process Salt Traditional in Rabasa Haerain Village and Weoe Village in Malaka District and SNI (3556-2016 and 4435-2017).

Organoleptic Testing

The Salt Color of Rabasa Haerain Village and Weoe Village

Panelist average of the salt color parameters produced in Rabasa Haerain Village and Weoe Village Malaka District with the highest is normal white color descriptive (100%) in Weoe village and the lowest is brownish white color descriptive (66.67%) in the village of Rabasa Haerain. Comparing the values of panelists' assessment with the salt quality requirements for raw materials for iodized consumption salt (SNI 4435-2017). The profile of the average value of panelists' evaluation of salt color parameters produced traditionally in Rabasa Haerain Village and Weoe Village in Malacca District can be seen in Figure 3.

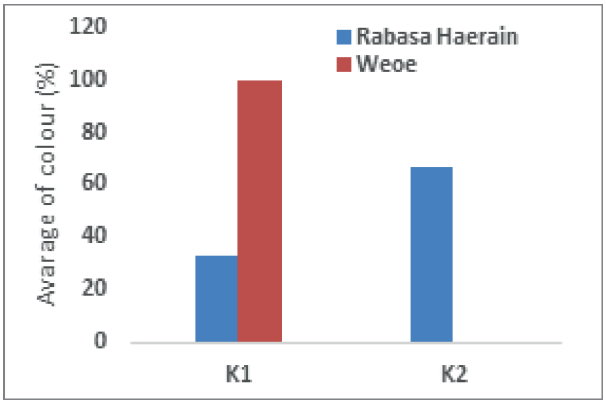

Fig. 3. Profile of the Average of Panelist's Evaluation of Salt Color Parameters Traditional Produced in Rabasa Haerain Village and Weoe Village Malaka District (Q1 = Good Quality, Q2 = Medium quality and Q3 = low quality

The salt odor of Rabasa Haerain Village and Weoe Village

The panelist average parameters of salt odor produced in Rabasa Haerain village and Weoe village of Malaka District with the highest is normal odor descriptive (100%) in Weoe village and the lowest in Rabasa Haerain village is normal odor descriptive (53.33%). Comparing the values of panelists' assess-

ment with the salt quality requirements for raw materials for iodized consumption salt (SNI 4435-2017). The profile of the average of panelists' evaluation of the salt odor parameters produced traditionally in Rabasa Haerain and Weoe villages in Malaka District can be seen in Figure 4.

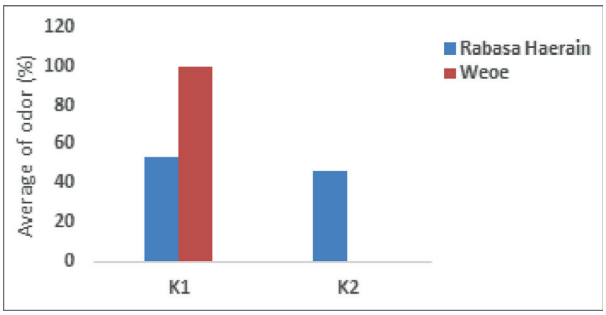

Fig. 4. Profile of the Average of Panelists Evaluation of Salt odor Parameters Traditional Produced in Rabasa Haerain Village and Weoe Village Malaka District (Q1 = Good Quality, Q2 = Medium Quality and Q3 = Low Quality.

Conclusion

Based on the results of the analysis and discussion it can be concluded that:

1. The process of processing people's salt in Rabasa Haerain Village and Weoe Village Malacca District uses the same raw material; pond land measuring 40 kg and brackish water for each village 80 liters for Rabasa Haerain village and 75 liters for Weoe village. Screening is done for 1 hour and cooking / boiling for 4-5 hours for Rabasa Haerain Village, 3-4 hours for Weoe Village and the environmental conditions of the two villages are still very poor/lack of raw materials such as firewood for cooking people's salt. Packaging and distribution.
2. Content of water content and NaCl. Traditional salt produced by the two villages is obtained from the NaCl content which is still low.
3. Organoleptic testing process to determine the color and odor of cooking salt traditionally produced by the two different villages with effective color and odor quality found in Weoe village, Wewiku District, Malacca District.

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