

# Assisting Women's Farmer Community in Utilization of Coconut Water for Coconut Ketchup Production in Penggung, Hargorejo Kokap Kulon Progo

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## Abstract

Penggung, Hargorejo, Kokap, Kulon Progo is the region that has many growing coconut trees. The utilization of the coconut including the *nira* (fermented coconut) and coconut flesh. The coconut is extracted to get the coconut flesh while the coir and shell were sold to collectors. The water was wasted without utilization. In this case, Kelompok Wanita Tani (KWT or women's farmer community) is trying to utilize coconut water through assisting the program of the coconut soy sauce production. The main material for making soy sauce is coconut water and spices. The method used by washed spices and mashed it, then warmed up the spices with coconut water. Because of the low protein content, the water soy sauce can be added with soybean, fish or shrimp powder to increase the protein. The water coconut soy sauce contained 24.01% of water, 2.30% protein, 6.09% of ash and 12.34% solid solution. The soy sauce lasts for a week without any preservatives. For more seven days usage can be added with 0.02% benzoate acid 0.5 g into a bottle of soy sauce.

**Keywords:** Coconut water; Soy sauce.

## Introduction

Penggung, Hargorejo, Kokap, Kulon Progo have  $\pm$  5 Ha areas that at 124.74 m above the sea level (masl). It located at the south side of Menoreh ridge that has a soil contour of calcareous soil.

The female farmers in Penggung are gathered in *Kelompok Wanita Tani* (KWT or women's farmer community) that has 20 members. The activity of the KWT is to increase the farming income and to innovate the cultivation of the farming product. The KWT has an important role in this case. For example, the majority of female farmer works as a sugar maker or a coconut oil maker.

The coconut tree grows and cultivated in Penggung, this makes coconut as a main commodity society. The part of the coconut tree used is a *nira* and coconut flesh, as for the processed products is a palm sugar, brown sugar, cooking oil and Virgin Coconut Oil (VCO).

The utilization of coconut in the Penggung society still limited to the coconut flesh that used for coconut oil or virgin coconut oil production. The coconut coir and shells only sold to a collector, while the coconut water is used for making *nata de coco*. The volume of

coconut water product is unbalanced with coconut water utilization, so coconut water is wasted.

The coconut water is contained from coconut, cheap price but high nutrition with water, potassium, carbohydrate, protein and mineral content. Based on BPS data (2012), coconut production in Indonesia in 2012 reached 22,889,109 tons. Coconut is contained by four components, that is 35% of coconut coir, 12% shell, 28% fruit flesh, and 25% coconut water.

The utilization of coconut water not yet maximum, so there is a need to be more effort. One of the alternative way is by making soy sauce from the coconut water. Coconut soy sauce is a liquid products obtained from coconut water steam which added with sugar and spices. The difference from soy sauce, the coconut water production is without fermentation so it does not require a long time. The spices to make coconut soy sauce is the same with soy sauce, but the basic material is different (Kusumawardhani, 2011).

Coconut soy sauce has low protein content. So according to (Haryoto, 2004) need to be added substance that has high protein content with soybean, fish and shrimp powder. According to the Nutrition Laboratory Research at the Faculty of Agriculture, UNHAS Makassar, it is known that coconut soy sauce

contained 24.01% water, 2.30% protein, 6.09% ash, and 12.34% dissolved solids (Daewis, 2012).

## Method

Women's Farmer Community (KWT) of Penggung has some activities to increase the agricultural products and innovation in processing agricultural products. The utilization of coconut water as an alternative in processing coconut soy sauce, besides to decrease wasted coconut water also to increase the economic value of coconut water.

This kind of activity begins by socialization program to Women's Farmer Community of Penggung. Then we determine the date and place of training and making soy sauce of coconut water. The equipment needed are beaker glass, bucket, pans, filter, fry pan, grinder, stove, knife, stirrer, bottle, water funnel with filter, and spoon. While the materials needed are coconut water, sugar, *Lawang* flowers (*Illicium verum*), *kluwak* (*Pangium edule*), lemongrass, candlenut, onion, and galangal (*Alpinia galanga*).

The step is, first the coconut was cracked and the water was collected up to 2,5 liters and filtered. For the spices, after the spices are cleaned, 5 *Lawang* flowers were roasted for 2 minutes. Three onions, 3-gram candlenut were grilled and sauteed with 5 bay leaf. 5 *kluwak* cracked then soaked up to 2 minutes then grilled. 50-gram galangals sliced with 2 lemongrasses then crushed. When all the spices are ready, then cooked with boiled water and stirred until thickened.

## Result and Discussion

Assisting Women's Farmer Community in Penggung, Hargorejo, Kokap, Kulon Progo through production coconut soy sauce program is conducted on July 21, 2018, with 20 members.

Based on the coconut soy sauce production, there are three steps that are the purifying coconut water process, seasoning process, and the cooking process. The aim of the purifying process is to clean the coconut water. The aim of the seasoning process is to get the tastier soy sauce with maximum nutrition. This process is carried out by cleaning, grinding and sauteing. The

sauteing process is done without a long time to get the tastier taste and does not remove the essential content in the spices.

The aim of the cooking process followed by stirring is to get an ideal mixture. This process is complete when the water has thickened to half of the part. The mixture of sugar and coconut water while boiled will occur a thickening reaction (Achmad, 2018). In other stages, there is actually a preservation process to get lasts longer product. The preservation process can be done by using 0.5 g benzoic acid 0.02% in a bottle of soy sauce.

## Conclusion

From the assisting women's farmer community of Penggung activities in soy sauce production from coconut water, it can be concluded that the amount of coconut water produced from the Penggung community can be used as a basic ingredient in making coconut soy sauce. Coconut soy sauce contained by 24.01% water, 2.30% protein, ash 6.09%, and dissolved solids 12.34%.

Coconut soy sauce can last as long as the day without preservatives. The process of preserve soy sauce for coconut water can be used as an alternative for long-term use, by adding 0.5 grams benzoic acid 0.02% in a bottle of soy sauce

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