

Training and assistance for processed banana products through *the women skills academy*

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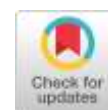
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ABSTRACT

Bananas are horticultural products that are easily degraded due to the physiological processes of the fruit. One of the products to increase the shelf life of bananas is banana flour. Banana flour can be used as a floury substance in processing, one of which is the processing of cookies. Sidomulyo Village has high banana production, but the community has not been able to process bananas into processed bananas that are worth selling. Therefore, training is carried out to utilize bananas into processed products that are of selling value. The methods used in this activity are the preparation of tools and materials, pre-tests, explanations of work materials and methods, practices, and post-tests. The ingredients provided are in the form of modules and recipes for making processed bananas. Participants were divided into 4 groups where one group consisted of 4 people. After that, the participants practiced making banana flour and cookies. Then after the exercise is over, a post-test is carried out to measure understanding after the lecture. After this activity is completed, it is hoped that WSA participants will be able to make processed bananas that can be sold.



KEYWORDS

Bananas
cookies
Banana flour



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1. Introduction

Sidomulyo Village is one of the villages located in the Special Region of Yogyakarta Province which has advantages in agriculture. Sidomulyo village has a yard of 150.55 ha, with the number of farmers as many as 1669 people [1]. This is shown by the abundance of agricultural products, one of which is bananas. Banana fruit has the potential to be processed into various processed food products that have a promising selling value. Banana fruit is included in fruits that are not durable so they need to be processed into products that can last a long time such as banana flour [2]. The Special Region of Yogyakarta became one of the centers of banana production reaching production of 416,668.1 tons in 2009 with the number of trees producing as many as 1,033,972 clumps, spread across 4 (four) districts, namely Sleman, Kulonprogo, Gunungkidul, and Bantul Regencies [3]. People in Sidomulyo Village cultivate a lot of banana plants, due to the high production of processed bananas in the village. However, people have not been able to process bananas into an interesting processed alternative. People are only able to process bananas into preparations that are only consumed by themselves. Even though processed bananas can be used by the public to become products that have a relatively high selling value in the market. Bananas have benefits that can be used for a variety of processed foods that are much loved by the people of Indonesia. Banana fruits can be innovated into a variety of processed food products including, various snack products such as conventional banana chips, banana chips, kecimpling, banana sticks, and others. Bananas can also be processed into products in the form of flour and starch which can be used to replace wheat flour in the manufacture of various food products including bakery products [4].

One type of banana fruit that is widely produced, one of which is the uter banana. Uter bananas are one of the bananas from the Plantain group whose use is still limited. The resistant starch content of whole fruit flour, fruit flesh and banana peel Uter was 14.398%, 17.588% and 11% dry weight, respectively. Uter banana flour contains dietary fiber of 8.218%, 7.478% and 31.128% dry weight [2]. Bananas are climactic fruits, so they will easily experience maturity so it is necessary to do ways so that processed banana products have a longer shelf life. Plantain is a group of bananas that are eaten after being processed first, for example uter bananas, rattan bananas, cotton paddles, etc. Bananas that are included in the type of plantain have a high starch content, therefore this type of banana is often used as an ingredient in making flour [5]. *Cookies* are one of the cookies that are widely loved by the public. The average consumption of cookies (including *cookies*) was quite high in Indonesia, in 2011-2015 with an average consumption of around 24.22%. During the period 2014-2018 it increased from 8,738 to 22,824. *Commercial* cookies circulating in the market have a poorly balanced nutritional content, namely, high carbohydrates and fats [6].

Lack of local village government in providing non-formal education to the community. So that problems arose in Sidomulyo Village, including the lack of training in making processed bananas. This problem can be solved by conducting training on making various banana preparations. Therefore, the PPKO HMPS Biologi team held a training on making processed bananas in Sidomulyo Village consisting of two padukuhan, namely Cangkring and Ngajaran. These two supports were targeted by the PPKO HMPS Biology team in a girls' school called *Women Skill Academy* where training activities for making processed bananas became one of the learning materials.

2. Method

This activity was carried out in Sidomulyo Village which is housed in the School building Women's Academy of Skills (WSA) on Jakarta, September 25, 2022. The activity was held at 13.30-16.20 WIB. This training begins with preparation of tools and materials, pre-test work, explanations material and work face in the manufacture of processed bananas, the practice of making banana flour and Cookies, post-test work. In this activity, participants were divided into 4 groups of 1 group consisting of 4-5 people. After that, participants practiced banana processing into banana flour and Cookies. The banana used to make flour is the uterine banana. After the practice is completed, a post-test is carried out to measure the knowledge of participants after attending the training.

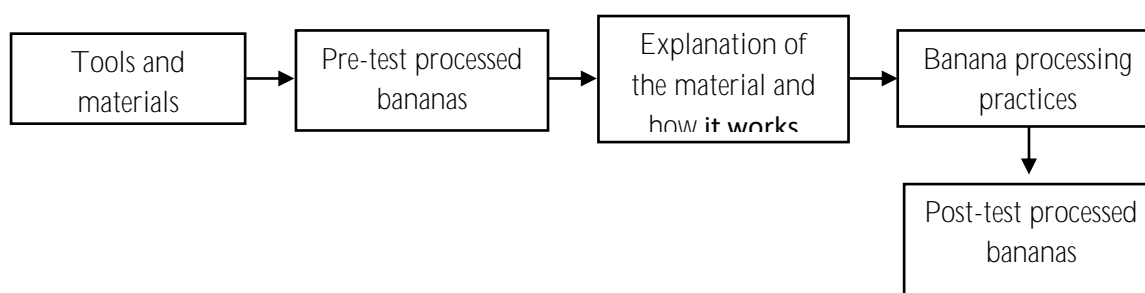


Fig. 1. Banana processing practice methods

3. Results and Discussion

The community and women skills academy are enthusiastic about the implementation of training activities on making processed bananas in the form of banana flour and *cookies*. This activity was attended by women from Cangkring and Ngajaran padukuhan. The people who participated in this activity were 16 people. This training and assistance was carried out with the Amanah Peasant Women group together with the PPKO HMPS Biology team. Training and mentoring were carried out with the service team distributing pre-tests to measure the knowledge of participants before the presentation. The material is given in the form of modules and recipes for how to make flour and *cookies*. Then the community is divided into 4 groups, each group of members is 4 people. At the first stage is carried out stripping,

washing of banana uter (Fig. 2). The next process is the picking of banana fruits and drying is carried out (Fig. 3). The next process is the grinding and sifting of banana flour.



Fig. 2. Stripping and washing bananas

The processing of uter bananas into banana flour can add to the selling value of uter bananas and can be used as an ingredient in making *cookies*. The business of making banana flour is carried out so that the harvest is not damaged and rotten quickly [7]. The flour of the uter banana that is welcomed is brown. This can happen because the white-yellowish banana uter fruit is dried in the sun so that it produces a brown color. The color of the flesh of banana fruits can affect the color of banana flour. The degree of ripeness of bananas also affects the color and aroma of banana flour [8].



Fig. 3. Banana drying process

After making banana flour, it is referred to by the use of banana flour as an ingredient in making banana *cookies*. The first stage is to beat the margarine with sugar until white and put in the **yolks to mix** thoroughly (Fig. 4). Then banana flour is mixed with mocaf flour, vanilla, skim milk until homogeneous and put the choco chip (Fig. 5). Flatten the dough with a roll, then mold to taste and spread margarine on a baking sheet. Then the last stage is a dough oven with a temperature of 160° for 30 minutes or until cooked through .



Fig. 4. Masgarin and sugar shuffling



Fig. 5. Dough mixing

Based on Fig. 6, it can be seen that after the WSA participants attended the banana processing training, they showed an increased understanding of alternatives to processing bananas into banana flour and banana *cookies*. The increase in public understanding was 17.5%. With the increase in pre-test and post-test results, it can be used as a benchmark that this training and assistance can provide benefits and increase public knowledge about alternatives to processed bananas. Processing bananas into banana flour will not reduce the nutritional content of bananas. The content of banana flour is protein 2.9 grams, fat 0.4 grams, carbohydrates 80.6 grams, fiber 5.3 grams, potassium 734 grams [9];[10];[11].

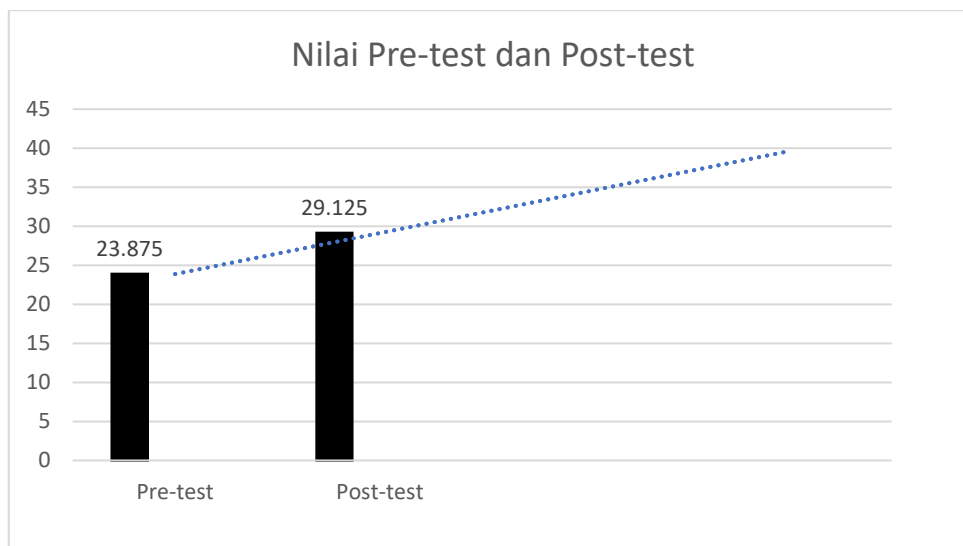


Fig. 6. Result of increase (%) nilai pre-test and post-test

4. Conclusion

After training and assistance in making banana flour and banana *cookies* to the people of Sidomulyo Village, the community has high enthusiasm and increased public knowledge about how to make banana flour and banana *cookies* [12]. The public knows new innovations regarding the processing of banana flour and banana *cookies* that can be consumed by all circles and is able to become a product with a high selling value. The public also knows the nutritional content contained in banana flour.

