

MANUFACTURE YOGURT OF SOYBEAN MILK (GLYCINE SOJA) FOR FAMILY WELFARE IN THE LOJI VILLAGE WEST BOGOR

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Abstract

Loji, West Bogor District, Bogor City is a densely populated area. Knowledge of the benefits and manufacture of Glycine soja milk-based yogurt for Family is very important to family health. Yogurt can make varied drinks in the family so as to support family health. Because yogurt has been proven in boosting the immune system, also the benefits of soy milk are very effective for some health problems. The purpose of this program is provide information the making of soy milk-based yogurt for families and give information of the benefits of yogurt if consumed. The method of the activity is practice in making Yogurt was added the starter to be fermented againt 20 cadres. Evaluation of making soy-based Yogurt is done after 2 days of practice to wait for the fermentation process that occurs in the basic ingredients of soy milk. The results of the activities of Empowering Family Welfare can make yogurt from soy milk with a variety of flavors. The output of this activity is an increase in the understanding and skills of the Loji village family West Bogor District in making Yogurt and increasing family business skills. This activity improves cadre knowledge.

Keywords: glycine soja milk; yogurt.

I. INTRODUCTION

The Community 09, Loji Village, West Bogor sub-district, Bogor City is crowded, the human resource facilities are sufficient, but the income is still low. Need activities that support family income and benefit health. Soy milk is a very complete source of protein needed by the body. Soybeans contain large amounts of essential amino acids and are good sources of protein, rich in mineral proteins and vitamins, especially vitamin E (Bo Song [1]). Each soybean species collected in Taiwan has a unique seed protein pattern (Hsieh [2]). Rowles [3] state that soybeans are a protein source of high-quality, vitamins, minerals and isoflavones. Lectin of soybeans can be reduced their by cooking, fermenting and grown. Soy milk is rich in vitamins and minerals needed by the human body, such as Calcium, Iron, Phosphorus, vitamins A, and vitamins B1[4]. Besides being low in calories, fat, and high in protein, the ratio of saturated fat and unsaturated of soy milk can monitor high blood pressure and cholesterol. Soy milk has prospective to be used as a substitute of milk due to its health benefits. It is a rich source of iso-flavones, omega-3-fatty acid, dietary fiber, vitamins C, carotenoids, protein and oligosaccharides (Ahsan [5]).

Yogurt is a functional food. The functional food includes probiotics, prebiotics and synbiotics. Probiotics can be defined as “live microbial feed supplements that beneficially affect the host animal by improving its intestinal microbial balance”. Prebiotics as “non-digestible food ingredient that beneficially affects the host by selectively stimulating the growth and/or activity of one or a limited number of bacteria in the colon” (Aswal [6]). Elliott [7] state that yogurt provides almost every nutrient that your body needs. It is especially high in calcium, B vitamins and trace minerals all of which may boost immune health and prevent certain illnesses. Consuming it regularly may reduce the risk of osteoporosis. Fernandez [8] state that yogurt consumption in children is also likely associated with healthy lifestyle and dietary behaviors. In addition to nutrient-rich, yogurt is an excellent substitute for snacks and can thereby help children and adolescents develop healthy behaviors that promote energy balance.

Furthermore, the nutrients and ferments contained in yogurt have been implicated microbiota, and there are emerging benefits of yogurt consumption on bone health, weight maintenance, and cardiometabolic disease prevention. Making yogurt from soy milk does not only have physical characteristics, the probiotic content is also beneficial,

including preventing colon cancer and functioning as a milk substitute for people with lactose intolerance. Training Making yogurt made from soy milk is one of the efforts to increase knowledge and increase income, can become a family business. The purpose of counseling is to introduce the methods and process of making yogurt made from soy milk involving microorganisms to Empowering Family Welfare women in Loji Village, Bogor Barat District, Bogor City.

The Problem, The residents 09 Loji Village, West Bogor District, Bogor City is an area with a densely populated population, and its income is still low. Knowledge is needed to support family life. Yogurt is consumed by many people now because of its health benefits. Because the people of The residents 09 do not know how to make it, education and practice about yogurt are needed. Soybeans are not foreign to us, milk can be made as a basis for making yogurt which needs to know how to make it.

II. METHODS

The implementation of this activity uses the method of guidance and how to make yogurt and how to do the practice of making it directly. The activity was carried out on 20 cadres of Empowering Family Welfare in Loji Village, Bogor Barat District, Bogor City. In connection with this, the community service team solves existing problems by:

1. Counseling is done by the lecture method, discussion and practice of making yogurt from soy milk through fermentation. This activity is carried out within 2x 24 hours. Incubation 42-45°C until desired pH is reached (Weerathilake [9]). If the fermentation time is not too long at the desired acidity level and the texture that is not thick (watery) is easy to drink which is commonly called drink yogurt. Corrieu and Beal [10] state that the two thermophilic lactic acid bacteria, *S. thermophilus* and *L. delbrueckii subsp.bulgaricus*, which trigger yogurt fermentation, are considered as "generally recognized as safe".
2. Evaluate yogurt making and evaluation of monitoring activities for the next program, carried out after the yogurt is finished and one month after implementation. This texture change occurs due to a pH decrease and pH lag phase during yogurt fermentation in which makes the yogurt become thick or semi solid and the taste turns sour (Sfakianakis and Tzia [11]).

The points of assessment (feedback) are contained in the questions as follows,

1. This community service program is in accordance with the objectives of the activity itself
2. This community service program is in line with the needs of the target community

3. The time for implementing this community service program has been relatively sufficient according to needs
4. University of Pakuan lecturers and students are friendly, fast and responsive during activities
5. The local community accepts and expects the current and future service program to the Pakuan University community.

This questions will be assessed by the community strongly disagree, disagree, agree, and strongly agree

III. RESULTS AND DISCUSSION

The results achieved during the activity are shown in the following figure,



Figure 1. a. soy milk, starter, sweetener, heating lamp, b..Sweetener, starter, soy milk



Figure 2. Atmosphere when the discussion explained the profit and making yogurt for family

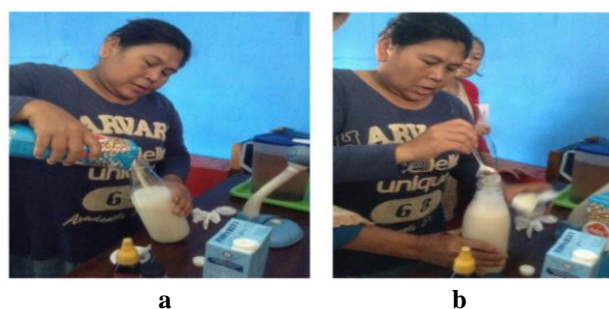


Figure 3. Preparation process for yogurt fermentation.
a. Put sterile milk into a bottle
b. Add a starter (Biokul) of $\pm 2\%$, with a sterile spoon



Figure 4. The mixing process or homogenization of milk with a starter.
 a. The process of homogenizing milk and starter.
 b. Homogeneous milk is ready for fermentation



Figure 5. Discussion atmosphere during the training on making yogurt

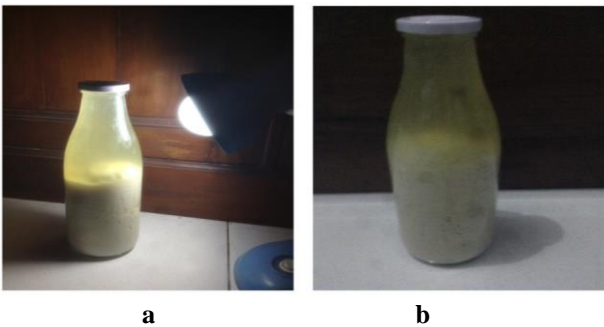


Figure 6. Yogurt fermentation of soy milk.
 a. Position of the heating lamp (37oC).
 b. Changes during fermentation form the upper layer of water and thickened milk at the bottom

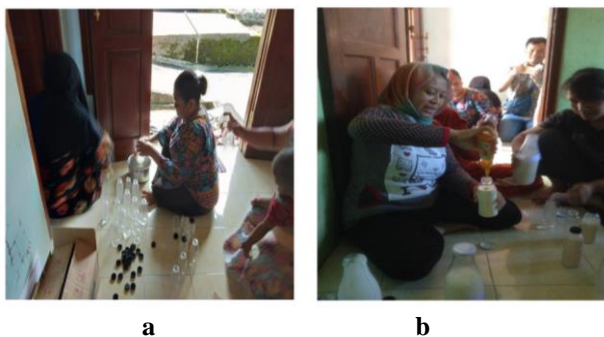


Figure 7. a. Participants are sterilizing bottles of 250 ml plastic packaging for yogurt
 b. sweetens for yogurt

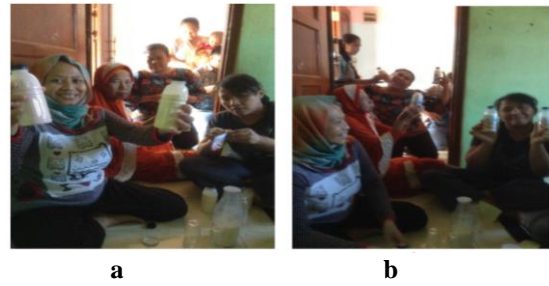


Figure 8. a. Participant shows yogurt soy milk ready to drink.
 b. Labeling on bottle packaging



Figure 9. a. Participants discuss yogurt.
 b. Showed the yogurt packaging they make

Evaluation

Evaluation of the success of Empowering Family Welfare activities was taken based on the questionnaire distributed like Table 1 and the results are analyzed so that they get the numbers as in Table 2.

Activity Title:

Manufacture Yogurt of Soybean Milk (*Glycine soja*) For Family Welfare In the Loji Village West Bogor In Bogor

Table 1. Put a √ on statement below according to your opinion

Points of Assessment (Feedback)	Strongly disagree	Disagree	Agree	Strongly agree
1.This community service program is in accordance with the objectives of this activity itself			√	
2.This community service program is in line with the needs of the target community			√	
3.The time for implementing the community service program is relatively sufficient as needed			√	
4.Pakuan University lecturers and students are friendly, fast, and responsive during activities			√	
5.The local community accepts and expects the service program for the Pakuan University community now and in the future				√

Note:

Score: range score 1 = bad; 2 = less; 3 = enough; 4 = good; 5 = very good

Range score: 2 = less (number of agree + strongly agree <60%); 3 = sufficient (60% <number of agree + strongly agree <70%); 4 = good (70% <number of agree + strongly agree <80%); very good (number of agree + strongly agree > 80%)

Value = score x weight; maximum value of 500

Table 2. Input / feedback Empowering Family Welfare in Loji Sub-District, West Bogor District, Bogor City

Respondents	According to purpose	As needed	Assessment Points		Accept and hope
			Relatively not sufficient as needed	Lecturers are friendly, responsive	
1.	4	4	4	4	5
2.	4	4	4	4	3
3.	4	4	4	4	5
4.	4	4	4	4	4
5.	5	4	4	4	4
6.	4	4	4	4	4
7.	4	4	4	4	4
8.	4	4	4	4	4
9.	4	4	4	4	4
10.	4	4	4	4	5
11.	5	4	4	4	5
12.	4	4	4	4	4
13.	4	4	4	4	4
14.	4	4	4	4	4
15.	5	4	4	4	5
16.	4	4	4	4	5
17.	4	4	4	4	4
18.	4	4	4	4	4
19.	5	4	4	4	5
20.	4	4	4	4	5
Average	4,1	4	4	4	4,4

Based on the input of Empowering Family Welfare Mothers in Loji Village, West Bogor Subdistrict (Table 1), after getting training in making soy milk-based Yogurt, they were very enthusiastic and hopeful, receive training in the future with an average score of 4.4 (Table 2) or around 70-80%.

IV. CONCLUSION

The counseling program and making yogurt made from soy milk for the the residents 09 in Loji Village, Bogor West Subdistrict, Bogor city have been successfully implemented, can increase knowledge and insight into yogurt making and health for families. The skill of making yogurt in the residents 09 in Loji sub-district have not be developed as a family business. The women in Loji Subdistrict, West Bogor were very enthusiastic and hopeful to receive training in the future with an average score of 4.4 or around 70-80%.

Recommendations

1. Based on the evaluation results, continuous community service activities are needed because this activity is able to provide insight into knowledge and skills for the community.
2. This activity needs to be improved because it can be a bridge to facilitate insight into increasing family income

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