

Soy milk Flavor Technique to Increase the Income of Mestong Society at Muaro Jambi Region

D Renate¹, I Gusriani², Edison³

{dhariarenate@yahoo.com¹, gusrieone@yahoo.com², ediedison950@yahoo.co.id³}

Department of Agricultural Product Technology, Faculty of Agriculture Technology,
Universitas Jambi

Abstract. Soybeans as one of the superior commodities of Jambi Province which get priority with the increasing of production and the growth of food processing industry because it produce profits for farmers, especially in increasing farmer's income. Soybean is a raw material of milk processing and other industrial raw materials such as tempe and tempe flour. Soy milk is a processed product of soy without preservatives and it can be consumed directly as a beverage. Smell of rotten often arises in the processing of soy milk because of the compounds of protein and free fatty acids in soy milk. To undertake change of soybean flavor is an important innovation for soybean businessmen to produce soy milk with a variety of flavors such as chocolate, strawberry and vanilla. The objective of this activity is to educate woman program at village on having knowledge and technique of making soy milk, and skillfully of making soy milk. Expected benefits of this activity is (a) to have professions in the field of agro-industry especially soy milk so as to provide additional income opportunities, and (b) the dissemination of science and technology as a product that needs to be known and utilized. The method is divided into 4 sections: counseling, field visit, field practice and consultation. The target audience of this service activity is joint business group Raudatul Jannah and woman program at village of Mestong District, Muaro Jambi Region, Jambi Province. The number of participants who participated in this activity as many as 50 people due to limited space and time availability. The result of this activity conclude that there is a change of understanding and insight of woman program at village (PKK) and KUBE Cooperative Group to increase soybean farming activities into better activity that is adding income to the development of agribusiness and soybean milk agroindustry.

Keywords: soy milk, income, agroindustry, woman program at village (PKK)

1. Introduction

Mestong district is located in Muaro Jambi region, approximately 50 km from Jambi province. According to district monograph data 2015, the population of Mestong district is 5,198 persons or 1472 families; it consists of 2,130 mens (49.35%) and 2,407 women (50.65%). The main income of the people is agriculture, especially dry land agriculture of palm oil and rubber. This sub-district has 782 (80.06%) farmers and 108 (7.97%) laborers who

work on agriculture field [1]. The people also plant vegetables, tomatoes and soy in their yards [2]. Some fruits are marketed in the market and some are used for their own consumption. Soy is a dominant commodity among others. Jambi, as a province with abundant natural resources in agriculture, should be able to increase their economic growth. The main reason this still not working optimally is because of the farmer who still not implement the agriculture system on their farming. In order to solve this problem, Jambi has launched agribusiness system and agroindustry into Jambi development prototype. As a result, Jambi will be an otonome province which will increase the inspirative and efficient activity [1].

In 2014, Muaro Jambi district, one of soy producers in Jambi province, produces 1.452-ton soys with the average of 16.20 Ku/Ha [2]. The escalation of soy needs is supported by its usage as raw material in food processing industry in the developing country. Consequently, there is an entrepreneurship opportunity for soys either for import or export [3].

Soy milk is a process food from soy bean which is pounded, dilluted with water and strained. It can be stored for more than two months and it should not use preservatives [4, 5]. Thus, it can be used not only as a drink but also cake dough mixture. Unpleasant smell from soy milk is due to protein compound and free fatty acids from soy milk. Soy milk flavor technique is an important innovation for soy milk producer to produce several flavor like chocolate, strawberry and vanilla [5]. This community service activity is expected to give advantage to the society especially Raudatul Jannah and woman program at village (PKK) to gain the knowledge to increase post-harvest technology. Moreover, it is also expected that they can select their profession in agriculture field, like soy milk, and create new opportunity for their income. Thus, the specific aims for this project are that Raudatul Jannah and PKK women will have the knowledge of soy post-harvest technology, understand the soy processing technology to soy milk, have the skill to produce soy milk product, create and start the business of soy milk product within six months.

2. Methods

The materials for soymilk production was fresh soybean from Mestong district, Jambi. The method of this activity is performed in several ways; counseling, field trip, consultation and practice.

a. Counseling

The counseling include the lecture and discussion in the meeting hall. The participants are given a module for the lecture and discussion session. They can ask questions in the discussion session if there is still unclear information from the booklet.

b. Field trip

Participatns are divided in small groups to survey the agriculture location and business location of Raudatul Jannah. The participants get explanations about farming and marketing the product efficiently which at the end will increase the income [6].

c. Consultation

After the field trip, the participant continues their farming activity and solve the problem occur during the process. They directly involved in the learning by doing.

d. Practice

The practical, which is held in the meeting hall, is conducted with the small team to demonstrate soy milk processing technique. After that, the participant is given the opportunity to try themselves, let them get the experience and skills to process the soy milk.

Soy milk processing is started by the preparation; select a good quality soy, clean up and wash them using a clean water. After cleaning up, the soy is boiled for approximately 15 minutes and soaked using clean water for 12 hours (overnight). After that, wash the soy using clean water while squeeze them to let the skin peel. After the soy is clean from the skin, blender while give the water gradually. Add the puree of soy with hot water, mix and filter them with fabric to get the filtrate. Add NaPO₄, sugar and flavor enhancer to the filtrate, strain, and heat them up at 80 °C but do not let them boil. During the heating, stir the filtrate to dissolve the sugar and prevent the boiling. When the smell of soy is replaced by the flavor enhancement, the soy milk can be packed into a sterile bottle. After that, these soy milk bottles are put into a pan filled in with boil water for 10-15 minutes until the temperature in the bottles is 70-80 °C. This heating is important to eliminate the air (exhausting). After that, the bottles are capped with the bottle cover. The bottles are put into the pan filled in boiled water again for 15 minutes which all bottles are under water [7, 8]. After finish, chill the bottles in room temperature and soy milk is ready to consumed.

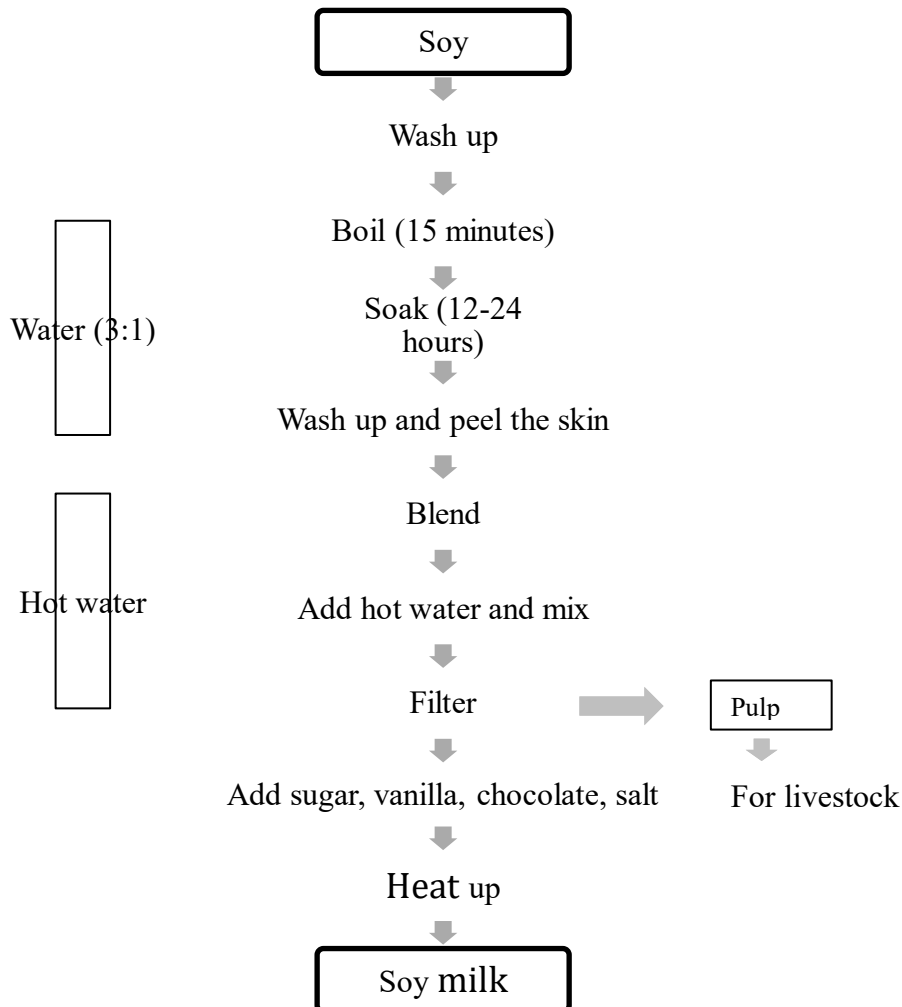


Figure 1. Soy milk processing scheme

3. Results and Discussion

- a. After the meeting with participants, the counseling is implemented by giving understanding about the development of milk processing in the industry followed by the pre-test. From the meeting, it can be seen the enthusiasm of the participant to follow this activity as they actively asked questions about soy cultivation and post-harvesting during the discussion session. Their enthusiasm is due to the urge to increase their income as most of their soy product are marketed as a fresh soy. Moreover, they also have limited understanding about added-value of soy precessing to be soy milk.
- b. The consultation is to convince the participant who want to undertand more about soy agribusiness and agroindustry. From the first meeting, it can be seen a high enthusiasm from them.
- c. This community service has reach 75% of all activity. It can be seen from some activities related to soy milk agribusiness and agroindustry development to the community.

3.1 Soy milk processing technology

The community service activity is held by completing several steps, for instance provide an insight of soy milk agroindustry practice skills. This step is held by dividing the participat in several groups. First, soy preparation and pos-harvesting group who will be given a good soy condition for the processing. The counseling team try to help the participant to specify the characteristic and features of a good soy by sorting a clean soy.

The other group is given an insight about developmental aspect of soy milk agroindustry. In fact, some participants did not try agroindustry activity or soy processing into soy milk. This is due to their limited understanding about the process. They did not know that their soy product can be processed into soy milk product which will give added-value for them and create additional income. There was no role from the government to increase soy farmer welfare as there is no PPL.

From the observation, after harvesting, their soy will only cost IDR. 10.000 /kg while based on the team's analysis, it will cost IDR. 105.000 once the soy is processed to soy milk. The soy itself will cost IDR. 20.000/kg. It can be concluded that this activity should be maintained by directly involved the community to the soy milk processing. It can be performed by the housewife with a simple and efficient technology.

3.2 The evluation of community service activity

This community service activity is conducted to evaluate the benefit of this activity to the society as well as community service team. This evaluation is held to update the knowledge from the first evaluation, field observation and final evaluation. The first evaluation is performed before the activity started, by using questionnaire about soy cultivation and post-harvesting technology. From the first evaluation, it can be concluded that the participant have a good knowledge with the average score of 72% of all participants. The field observation indicates the participant have a good technical skill in soy cultivating and post-harvesting. The participant are responsive during the activity as they were active during lecture and discussion session. It indicates that they want to know more about soy cultivating, post-harvesting and soy milk prospect. Another indicator of the successful of this activity is from their presence. They look very enthusiasm to follow this activity. The successful of this activity as a whole is to motivate rural area society, especially soy farmer to learn soy cultivating and aoy milk post-harvesting technology in order to increase their income.

Soy milk flavor technique was produced from soy fresh and processed in some steps as shown in Figure 1-4.



Figure 1. Lecture of soymilk



Figure 2. The practical of soy milk production



Figure 3. Soymilk flavor



Figure 4. Discussion about soymilk

4. Conclusion

Community service activity means to support the community in soy farming, thus it will give the participants an insight and understanding about soy milk agribusiness and agroindustry. From this activity, it is concluded that there is understanding and insight of PKK women in sub-district and KUBE to increase soy farming activity into added-value product from the development of soy milk agribusiness and agroindustry.

Suggestion

It is suggested to continue this activity and focus on the solution to solve their problems, such as providing the processing equipment component and marketing their products.

Reference

- [1] Bappeda Tk. I Jambi. 2014. Membangun Jambi menjadi Prototipe Propinsi Otonom.
- [2] Dinas Pertanian Tanaman Pangan Daerah Tingkat I Jambi. 2015. Laporan Tahunan. Jambi.
- [3] Anonim.2010. Peluang Usaha Susu Kedelai. <http://restomesin.wordpress.com/2010/05/04/peluang-usaha-susukedelai-minuman-fungsional-kaya-protein/>. Diakses pada tanggal 04 Mei 2010.
- [4] Koswara, S. 1995. Teknologi pengolahan kedelai menjadikan makanan bermutu. Pustaka Sinar Harapan, Jakarta. p. 97-106.
- [5] Renate, D. 2015. Cara menghilangkan bau langu pada susu kedelai. Laporan Pengabdian. Universitas Jambi.
- [6] Soemardi dan R. Thahir. 1993. Pascapanen Kedelai. 429-440. Dalam Kedelai. Cetakan II. Pusat Penelitian dan Pengembangan Tanaman Pangan, Bogor.
- [7] Amrin, Totok. 2006. Susu Kedelai. Penebar Swadaya. Jakarta
- [8] Hartoyo, B. 2005. Perbaikan Mutu Susu Kedelai di dalam Botol. Bandung: Departemen Perindustrian. Bogor.
- [9]. Koswara, S. 1992. Susu Kedelai Tak Kalah dengan Susu Sapi. IPB. Bogor
- [10] Winarno, F. G. 1995. Pangan, Gizi, Teknologi, dan Konsumen. PT. Gramedia Pustaka Utama. Jakarta
- [11] Anonim. 2012. Susu Kedelai Minuman Fungsional Kaya Protein. [http://www.usahamakanan.com/potensi-bisnis-susu-kedelai-yang](http://www.usahamakanan.com/potensi-bisnis-susu-kedelai-yang-menyehatkan.html) menyehatkan. html. Diakses pada tanggal 16 April 2012.
- [12] BSN. 1995. SNI Susu Kedelai No. 01-3830-1995. Badan Standarisasi Nasional. Jakarta