Jurnal Pemberdayaan Masyarakat Madani, 9 (2) 2025, 79 — 99
**JURNAL PEMBERDAYAAN MASYARAKAT MADANI**
**http://journal.unj.ac.id/unj/index.php/jpm/index**

# TRAINING IN MAKING SOYA MILK TO INCREASE THE ENTREPRENEURIAL MOTIVATION OF SEKOLAH INDONESIA JEDDAH (SIJ) STUDENTS

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**ARTICLE INFO**

*Article history:*
*Received: 23rd August 2025*
*Accepted: 14th October 2025*
*Published: 18th December 2025*

*Keywords:*
*Training, Soya Milk, Entrepreneurship, Sekolah Indonesia Jeddah*

***ABSTRACT***

*In an increasingly competitive era, students need to be equipped not only with formal education, but also practical skills that can support their independence in the future. One skill that is relevant and has economic value is the ability to produce products that have market prospects, such as soya milk. The purpose of writing this research is to find out how the training process of making soymilk and calculating the selling price, and how the participants respond to the training activities. The methods used were lectures, questions and answers and demonstrations. The results showed 1) the implementation of the training began with the provision of basic materials related to soymilk processing, and then the practice of making soymilk together. Before the training, participants were given a pre-test first. The pre-test provided an overview of the extent of participants' understanding or skills before starting the program. There was an increase in understanding from before and after the training, and 2) in the participants' response to the activities, in general the participants responded well, all indicators were generally in the good and excellent categories. With this training, students are expected to not only be able to produce quality soymilk, but also have the motivation and confidence to try small business opportunities.).*

**How to cite: Miranti, M., G., Indriyanti, A., D., Suparji, Maspiyah, Handjani, S. (2025). Training in Making Soya Milk to Increase The Entrepreneurial Motivation of Sekolah Indonesia Jeddah (SIJ) Students. *Jurnal Pemberdayaan Masyarakat Madani* (JPMM), 9(2), 79-99. https://doi.org/10.21009/JPMM.009.2.06**.

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ISSN
2580-4332 (online)
DOI: https://doi.org/10.21009/JPMM.009.2.06

## INTRODUCTION

During increasingly fierce competition in the world of work, entrepreneurship is a strategic alternative to creating economic independence (Windusancono, 2021). However, facts on the ground show that many individuals, especially among the lower middle class, still lack the motivation to start a business (Nur et all, 2023). This is often due to limited knowledge, skills and confidence in managing a business. Therefore, efforts are needed to encourage enthusiasm and provide relevant practical skills so that people can make good use of business opportunities. Increasing entrepreneurial motivation is one of the strategic steps in supporting community economic development (Wahdiniawati et al, 2024). Entrepreneurship not only acts as a driving force for the economy, but also opens new job opportunities, improves living standards, and encourages individual independence. However, many people still experience obstacles in starting a business, especially related to limited knowledge, skills, and confidence to start a business.

One business opportunity that has bright and promising prospects, and can be started with small capital, is the production of soymilk. Soy milk is a healthy beverage product made from soybean raw materials, rich in protein, and is increasingly in demand by people who care about a healthy lifestyle, especially for those looking for alternative plant-based drinks. In addition, soybean raw materials are easy to obtain and relatively affordable, so this business can be carried out by various groups, including UMKM, as well as individuals who just want to start a business. Making soymilk is relatively easy, everyone can learn it through books or videos on YouTube. But for some people, to make new products they still need guidance. For example, teenagers who want to start a business. One of the teenagers who are interested in the culinary business are the students of Sekolah Indonesia Jeddah (SIJ) located in Jeddah.

SIJ is an Indonesian school located in the city of Jeddah, Saudi Arabia that organizes primary level education to final level education with the national education curriculum under the management of the Education and Culture Attaché of the Indonesian Embassy in Riyadh. Students who attend SIJ are children of Indonesian citizens, migrant workers, or TKW who live and work in Saudi Arabia, especially in Jeddah. The purpose of opening SIJ is so that children of Indonesian citizens, migrant workers, and migrant workers who are in Jeddah can get an education that is equivalent to other children in Indonesia. Although it is located abroad, learning at SIJ uses the same curriculum as in Indonesia, namely the Merdeka Curriculum.

In the implementation of learning using this curriculum, students are given entrepreneurial skills, namely through Entrepreneurial subjects and are also supported by Tata

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ISSN 2580-4332 (online)
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Boga extracurricular. Apart from teaching students to make products, this extracurricular activity also trains their entrepreneurial spirit, namely by selling the products they make. However, based on preliminary studies, in selling their products, SIJ students only use estimates of how much profit they want. Whereas the profit must consider the cost of raw materials (Khairiah et al, 2023) various variable costs (Herlin, Effendi, Yanto, & Tambunan, D. R. 2024), and the process of making the food product itself. In addition, SIJ students also have limited variations in the products they want to sell, due to the absence of a special culinary instructor. So that the products sold by SIJ students are only limited to various fried foods, instant drinks, and sponge cakes. In selling their products, SIJ students only consider the popularity of a product. Health and nutrition should also be a special consideration in selling food products (Dermawan et al, 2024). For this reason, SIJ students need learning related to food processing and calculation of selling prices, for example through training.

The training on soymilk production and selling price calculation comes as a solution to empower SIJ students through skills that can be applied immediately. The training program aims not only to teach how to produce high-quality soymilk, but also provide insights into packaging, marketing and business management strategies. With an integrated approach, participants are expected to be able to identify existing business opportunities, increase creativity, and build motivation to start and grow a sustainable business. The training is also designed to increase entrepreneurial motivation through the introduction of market potential, profit opportunities, and an understanding of the importance of innovation in business. Through this program, participants are expected to have a more positive view of entrepreneurship as a career choice and be able to take advantage of opportunities from the culinary-based creative economy sector. With a high entrepreneurial spirit, SIJ students can contribute to local and national economic development. This training is one of the concrete steps to create a generation of resilient, creative, innovative and independent entrepreneurs who are ready to face future economic challenges. Based on this background, the objectives of this training are to 1) provide an understanding of the process of making soya milk in a simple and practical way and 2) provide an understanding of the calculation of product selling prices. The purpose of writing this article is to find out how the training process of making soymilk and calculating the selling price, and how the participants respond to the training activities.

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## LITERATURE REVIEW

### 1. Entrepreneurial Motivation

Entrepreneurial motivation is the overall driving force within an entrepreneur that creates entrepreneurial activities that guarantee the continuity of entrepreneurial activities and that give direction to the entrepreneurial activities so that the desired goals can be achieved (Sarwono et al, 2022). Entrepreneurial motivation is the driving force within a person to carry out entrepreneurial activities in order to achieve entrepreneurial goals. Entrepreneurial motivation is a condition that encourages, moves and directs an individual's desire to carry out entrepreneurial activities, independently, self-confident, future-oriented, dares to take risks, is creative and values high passion for innovation. Entrepreneurial Motivation or entrepreneurial motivation involves motivation that is directed at entrepreneurial goals (goals that involve awareness and exploitation of business opportunities). Based on the description above, it can be concluded that entrepreneurial motivation is a condition that encourages, moves and directs an individual's desire to carry out entrepreneurial activities, independently, self-confident, future-oriented, risk-taking, creative and highly valuing the desire for innovation, and profit and gain-oriented.

### 2. Soymilk Process Making

Soy milk is a drink that contains a lot of protein and other substances that are very useful and important for the body. This is because soybeans, both processed products and still in the form of soybean grains, contain at least 17 amino acids, 8 of which are needed by the body in perfect composition. The main raw material for soymilk production is soybeans. Soybeans are one of the sources of vitamin B, because they contain a lot of vitamins B1, B2, niacin, pyridoxine and other vitamin B groups. Other vitamins contained in quite large amounts are vitamins E and K. Soybeans contain a lot of calcium and phosphorus, while iron is found in relatively small amounts. Other ingredients in making soy milk are water, sugar, salt, flavorings, and CMC. The amount of sugar added is usually around 5-7 percent of the weight of the milk. To increase children's appetite, the sugar content can be increased to 5-15 percent. But the recommended sugar content is 7 percent. Sugar content of 11 percent or more causes satiety quickly. In certain concentrations, sugar can function as a preservative, this causes microbes to be unable to grow. According to Mauren et al (2024) The stages of the soy milk making process are explained as follows: (ArtikelJeddah) (Tudisco, et al., 2006)

a. Sorting, soybeans must be sorted to get good soybeans (not defective, wrinkled, porous or rotten)



ISSN 2580-4332 (online)
DOI: https://doi.org/10.21009/JPMM.009.2.06

b. Washing/Soaking. After obtaining good soybeans, the soybeans are then washed with water until clean, if there is floating seed dirt, it must be removed. Next, soaking is carried out for at least 6 hours in clean water. The purpose of soaking is to soften the soybeans and reduce the unpleasant odor in soymilk products (beany flavor). After washing, the soybeans are soaked in a container. The amount of water used for soaking is at least 2 x the number of soybeans to be soaked. For example, 1 kg of soybeans is soaked in water more than 2 liters. The soaking time is around 8-12 hours. During soaking, the soybeans will absorb water so that the soybeans are softer and will make the next process easier.
c. Milling. Soybean milling is done using a soybean miller, while adding warm water approximately six times the weight of dry soybeans. Milling aims to break down the soybean tissue so that it will facilitate the extraction process. The purpose of grinding is to obtain soy porridge so that it facilitates the next process (extraction/filtering process). The addition of warm water in the grinding process is intended to help inactivate compounds that cause off-flavor in soybeans, namely glucosides, saponins, estrogen.
d. Boiling. Boiling is intended to inactivate anti-nutritional substances in soybeans (Trypsin inhibitors), increase the nutritional value and quality of protein, increase the flavor or aroma of soy milk, increase the yield and facilitate extraction/filtering. The soy porridge is heated until boiling and continues to be heated for about 15 to 30 minutes.
e. Filtering. The next process is that the soy porridge is filtered to obtain soy extract or soy milk. Filtering is done using a filter cloth. To increase the yield/filtering results, rinsing can be done by adding clean hot water.
f. Heating/pasteurization. The result of the filtering is cooked soy milk, and the next stage is to give it flavor by adding sugar and other additives. The amount of sugar added can vary, depending on consumer taste, but in general 7% sugar can be used, because higher concentrations can cause a feeling of fullness quickly.
g. Packaging. The cooked soy milk is then bottled while still hot or often called hot filling. Make sure the worktable and room are clean. Bottle packaging consists of 2 types, namely plastic bottle packaging and glass bottle packaging. Cups, plastic glasses and plastic bottles on the market are mostly made of LDPE, PP, PS and PET plastic.



ISSN 2580-4332 (online)
DOI: https://doi.org/10.21009/JPMM.009.2.06

## MATERIAL AND METHOD

Training activities on making soya milk and calculating its selling price were held at SIJ, Jeddah, Saudi Arabia. The participants of the activity were high school students in grades 10 and 11 totaling 20 people. The training was held on Sunday, 29 September 2024. The results of identifying the problems needed by SIJ students are related to food products that are not only edible, but also fulfil health elements and are sold by considering the price of raw materials, other variable costs and the production process. Related to these problems, the solution offered is to provide training. To find out the procedure for implementing PKM, it can be seen in the following diagram:

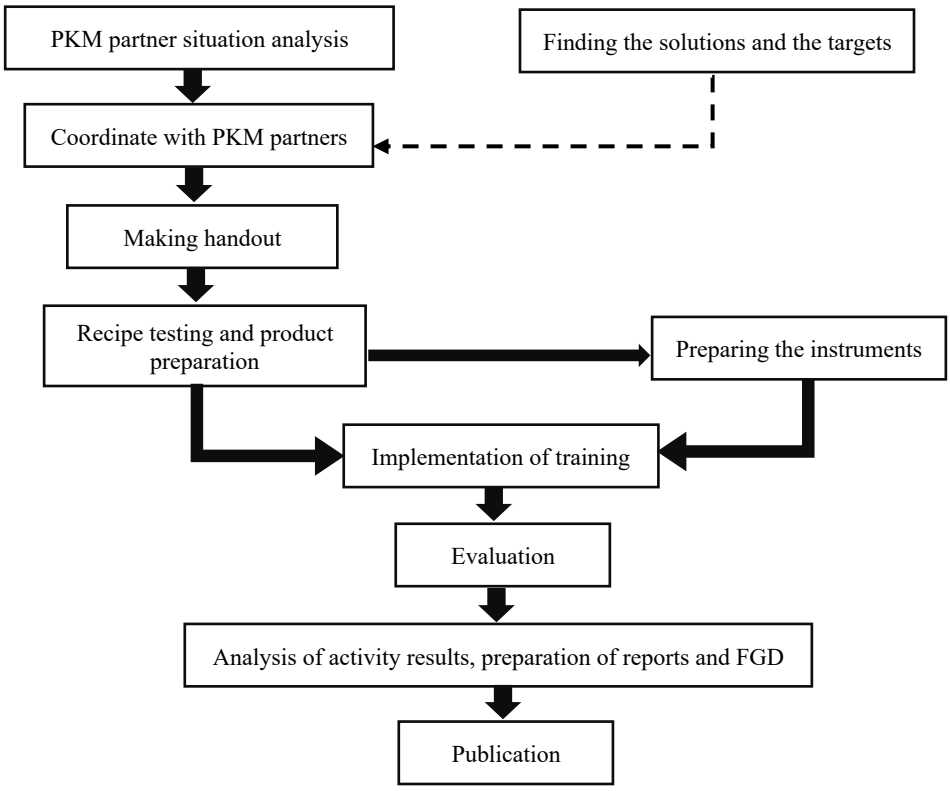


**Figure 1.** Flowchart of PKM Activities

This PKM activity will be carried out in 3 (three) stages, namely: (1) preparation stage; (2) formula trial; (3) implementation stage; and (4) evaluation stage. In the preparation stage, the things that are done are coordination with partners, making community response questionnaires, making material understanding test questions, making activity evaluation questionnaires. Formula trials were conducted to determine the standardization of the formula. The formula trial was carried out by the PKM Team in the Food Processing Laboratory 2 in Gd A3 Lt. 1. At the PKM implementation stage, the activity begins with the delivery of material, then practicum afterwards. Finally, the evaluation stage is carried out by analyzing the results



ISSN 2580-4332 (online)
DOI: https://doi.org/10.21009/JPMM.009.2.06

of filling out several instruments / questionnaires that have been prepared.

## RESULT AND DISCUSSION

Soy milk is one of the most popular healthy beverage products in society due to its health benefits and high nutritional content. Soy milk is generally made from protein-rich white soybean seeds; hence it offers a lactose-free alternative, making it suitable for individuals with lactose intolerance (Mita, 2024 and Giugliano, 2024) or who live a vegan lifestyle (Reyes-Jurado et al, 2021). Before the training began, the PKM Team conducted trials to find a product formula that met the criteria and the best taste, besides that, trials were also conducted to test the standardization of the formula. Before determining the ingredients, the team conducted a literature study on the ingredients to be used and analyzed their functions and nutritional content. The results of the analysis are as follows:

**Table 1.** Function and Content Analysis of Raw Materials

| Material | Function | Nutritional Content |
|---|---|---|
| Soya been | Main ingredient | 13,75% air; 41% protein; 15,8% of fat; 14,85 of carb and 5,25% mineral |
| Sugar | Sweetener | Energy 394 kkal, Carb total 94g, calcium 5 mg, Fosfor 1 mg, kalium 4.75 mg, water 5.40 g, ash 0.60 g |
| Ginger | Flavor enhancer | Atsiri oil 0,82%-2,8%, vitamin A, B (Collin and folat)2 dan C |
| Lemon grass | Flavor enhancer | Atsiri oil, vitamin C, flavonoid |
| Water | Pelarut | - |
| Fruit flavouring | Flavour enhancer | - |

Based on the table above, a ready to drink soya milk drink is made using these ingredients. The manufacture of soya milk uses an extraction technique with the help of a home-scale blender. Trials were conducted with two techniques, namely with two times and one boiling. The following are the results of the trial:



ISSN 2580-4332 (online)
DOI: https://doi.org/10.21009/JPMM.009.2.06

**Table 2**. Trial Result

| Technique of making soya milk | Result | |
|---|---|---|
| Two times boiling: Soya bean washing, soaking, dehulling, boiling, crushing, filtering, boiling, and mixing of other additives |  | Creamy white in colour, no smell but still has the aroma of soybean. The yield of soya juice is small and when squeezed, the liquid and pulp are easily separated. When left to stand, soya milk has a large sediment, so the milk must be stirred or shaken before drinking. |
| One time boiling: Washing of wheat beans, soaking, crushing, screening, boiling, and mixing of other additives |  | White in colour like regular cow's milk. It has a slight smell and has a very distinctive soya flavour. The liquid looks thicker. It has no sediment. When squeezed, the pulp is more difficult to separate from the juice, resulting in more pulp than soybeans with two boiling. |

Based on the table of the results of the soy milk making trial with two manufacturing techniques, it was determined that the technique to be used during the training, namely making soy milk with one boiling. The next step is to design the material requirements according to the number of target products determined. The following are the material requirements after calculation:

**Table 3.**
Soymilk Material Requirements

| No. | Ingredients | Total |
|---|---|---|
| 1. | Main Ingredients: | |
| | a. Soya been | 4 kg |
| | b. Water | 20 lt |
| 2. | Adding ingredients: | |
| | a. Sugar | 2 kg |
| | b. Salt | 0,012 kg |
| | c. Caramel | 0,5 lt |
| | d. Malaka Sugar | 1 kg |
| 3. | Stabilizer: | |
| | CMC | 7 gr |

Once the material requirements are identified, the next step is to prepare the packaging design and packaging labels. Packaging design has a very important role in the world of business and marketing because it functions as a product representative as well as a



ISSN 2580-4332 (online)
DOI: https://doi.org/10.21009/JPMM.009.2.06

communication tool with consumers (Has et al, 2024). Here are some reasons why packaging design is very important, namely 1) attracting consumer attention, 2) representing brand identity, 3) increasing quality perception, 4) providing product information, 5) increasing competitiveness, and 6) increasing consumer loyalty (Dewi et al, 2024). The following is the design of the soya milk packaging that will be used:


**Figure 2.** Soymilk packaging design

According to Has et al (2024) effective packaging design is not only about appearance, but also about conveying brand messages, creating an impression of quality, and offering a pleasant experience for consumers. Furthermore, the PKM Team also prepared other PKM components. To run the soymilk-making training effectively, several important components need to be prepared:

1) Experienced Instructor or Resource Person: Instructors with knowledge in soymilk production and small business are essential to guide participants. The team members are Mrs. Mauren Gita Miranti and Mrs. Aries Dwi Indriyanti.
2) Adequate Materials and Tools: some materials and tools were prepared from Indonesia, and other materials and electronics were prepared by SIJ.
3) Supporting Materials: A simple module or guidebook can help participants understand the stages and nutritional value of soymilk, and remember the information obtained. The following training tools and training kits were provided:


**Figure 3.** Training Kit and Training Module



ISSN
2580-4332 (online)
DOI: https://doi.org/10.21009/JPMM.009.2.06

Training participants not only received books or training modules related to soymilk production technology and business prospects, but they also received training kits consisting of notebooks, pens, aprons, and later participants will also bring their homemade products.

1. **Training on Making Soy Milk**

The PKM team came to SIJ and was welcomed by Bambang Hariyanto, S. Si., M. Pd as the head of student affairs, Yunis Eka Putra, M, Pd (head of curriculum), Nelly Setyawati, M. P (head of quality improvement and HR) and Titi Hesti, S.E (coach of culinary extracurricular). The FT Unesa PKM team led by Mrs WD II conveyed the purpose and purpose of the team's arrival to SIJ, namely, to follow up on SIJ's cooperation with Unesa, one of which was the implementation of PKM. SIJ with open arms welcomed PKM FT Unesa activities that can improve the soft skills of its students. The FT Unesa Team PKM is providing skills in making soya milk.

**Figure 4.** SIJ Hospitality with PKM FT Unesa Team

Soymilk production training is an educational activity that aims to teach participants how to produce soy milk independently. This program is useful not only to introduce the technical skills of making soymilk, but also to equip participants with simple business understanding, entrepreneurial skills, and soft skill development. The training began with an explanation of soymilk, its benefits, and manufacturing and packaging technology, as well as calculating the selling price of the product by Mrs. Mauren Gitta Miranti. According to her, soybean is one of the sources of vitamin B, because it contains a lot of vitamin B 1, B2, niacin, pyridoxine and other vitamin B groups (Parrini, S., Aquilani, C., Pugliese, C., Bozzi, R., & Sirtori, F. 2023). Other vitamins contained in considerable amounts are vitamins E and K. Soybeans contain a lot of calcium and phosphorus (Kurniawan et al, 2024), while iron is present in relatively small amounts. Other minerals are present in very small amounts. Soybean hulls contain 87 dietary fibers, 40 - 53 percent crude cellulose, 14 - 33 percent crude hemicellulose and 1 - 3 percent crude fiber.

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According to the Indonesian National Standard (SNI 01-3922-1995), soybean types are divided into 4 types, namely yellow soybean, black soybean, green soybean and mixed soybean. Each type consists of seeds that are almost uniform in shape and size or characteristic of a variety. The type of soybean used for soy milk is generally yellow soybean, which has a yellow, white or green seed coat and when cut crosswise shows a yellow color in the plane of the sliced seed pieces, not mixed with more than 10% of other types of soybeans.

This seed color greatly influences the use of soybean as a food ingredient, for example, yellow seeds for soy milk. According to Parrini, S., Aquilani, C., Pugliese, C., Bozzi, R., & Sirtori, F. (2023) the size of soybean seeds is classified as small if it has a weight of 8-10 g/100 seeds, medium-sized if the weight is 10-13 g/100 seeds, and large if the weight is >13 g/100 seeds. Seed sizes also affect the utilization of soybeans. Soybeans used as raw materials for making soymilk must meet the quality requirements of soybeans including free from crop residues (pod skins), free from pieces of stems or twigs, stones, free from gravel, soil and other seeds such as, not mixed with corn seeds, free from damaged soybean seeds and soybean seeds free from pest-infested seeds (Silvia, 2023).

Soymilk entrepreneurs like soybean seeds with a lot of soybean juice extract, yellow skin color and large size, because they produce soy milk with a bright color and large volume. Therefore, soymilk producers prefer imported soybeans whose seed size is larger, uniform, and of better quality (free from impurities), so that they do not require additional labor and time to clean before processing into soymilk. Besides containing the above useful compounds, soybeans also contain anti-nutritional compounds and compounds that cause off flavor (taste and aroma deviations in soymilk products). Anti-trypsin activity in soybean can be eliminated by soaking followed by heating/boiling/steaming (Murni, L., Manshur, H. A., & Saati, E. A., 2024).

Soybean odor and taste is one of the problems in soymilk processing. This unwelcome odor is produced by the presence of the enzyme lipoxidase in soybeans. This occurs because the lipoxidase enzyme hydrolyses or decomposes soybean fat into compounds that cause a strong odor, which belong to the hexanal and hexanol groups (Lestiarini, N., & Rindiani, R., 2023). These compounds in low concentrations can already cause a strong odour. Other off-flavor factors in soybean are bitterness and chalky taste caused by the presence of glycoside compounds in soybean seeds. Among these glycosides, soy saponin and sapogenol are the main causes of bitterness in soybean and its non-fermented products. According to Lestiarini, N., & Rindiani, R (2023) other glycoside



ISSN 2580-4332 (online)
DOI: https://doi.org/10.21009/JPMM.009.2.06

compounds that cause off-flavor in soybeans are isoflavones and their aglycosides. These glycosides cause a chalky flavor in soya milk and other non-fermented products.

**Figure 5.** The resource person explains the material

Mrs Mauren also explained the ingredients used in making soymilk other than soybeans, namely water which functions as a solvent and is the main ingredient. According to her, the amount of water added in making soymilk will directly affect the viscosity of the soymilk. The more water added, the thinner the soymilk will be and vice versa. Usually, each consumer will like soymilk with a certain viscosity. The use of water usually uses a ratio between the amount of soybeans and water, for example using a ratio of 1: 5, meaning that every use of 1 kg of soybeans is added with 5 litres of water. Likewise, the type of water used will directly affect the flavour of the soy milk produced. Water with a high calciummineral content will give a bitter taste. Furthermore, he also explained that in making soymilk, white and clean granulated sugar is needed, so that the resulting syrup has a sweet taste. The amount of sugar added is usually about 5-7 per cent of the milk weight. Technical Technical food speaking home speaking love love negltacto drtiquetas Lab ty But the recommended sugar level is 7 per cent. A sugar content of 11 per cent or more causes rapid satiety.

After briefly explaining the basic material, Mrs Mauren gave the participants the opportunity to ask questions related to the basic knowledge of making soymilk. The participants were very enthusiastic when listening to the resource person's presentation, because based on the triggering question, it turned out that most of the training participants who were Indonesian citizens born and raised in Saudi Arabia had never drunk soy milk, so they did not know how to make soy milk. Therefore, Mrs Mauren Gita together with Mrs Aries provided training on making soya milk to the students.



ISSN 2580-4332 (online)
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**Figure 6.** Soy Milk Making Training Activity

The training began with blending the soybeans using a blender provided by SIJ. Previously, the research team had soaked the soybeans overnight, so that the soybeans were softer and doubled in size. Soaking helps soften the soya beans, making the grinding or blending process easier. Softer beans will result in a smoother and easier to extract milk texture. Soya beans contain anti-nutritional compounds, such as trypsin inhibitors and phytic acid, which can interfere with the absorption of certain nutrients, soaking helps to reduce these compounds (Murni, L., Manshur, H. A., & Saati, E. A., 2024), thereby improving the nutritional quality of the soy milk produced. Soaking can also help reduce the odour and taste of soya beans (Murni, L., Manshur, H. A., & Saati, E. A., 2024) and can activate enzymes in soya beans that improve the digestion of nutrients in the body. This process is known as germination which also slightly improves the nutritional quality.

**Figure 7.** Soaking process of soya beans

After soaking for approximately 8 hours, the soybeans are then gently squeezed to separate the skin, then the soybeans are washed again and drained. The next day, the soybeans are brought to SIJ and ready to be processed into soymilk. The core process in making soymilk is the crushing of soybeans with the help of a blender. The use of a blender commonly used by home industries aims to make it easier for participants to provide an



ISSN
2580-4332 (online)
DOI: https://doi.org/10.21009/JPMM.009.2.06

overview of making soymilk. Because the blender is one of the PEFA (portable electric food appliance) that must be in the household. Blenders help crush soaked soya beans to produce a smoother soymilk. By breaking the ingredients into very fine particles, the blender maximises the release of nutrients from the soya beans into the liquid, resulting in soymilk with optimal nutrient content.

**Figure 9.** Blending and filtering process of Soy Milk

After being blended, the soybeans that become soy porridge are then filtered using a nylon filter cloth. Filtering functions to separate the soybean dregs from the soybean juice liquid. The remaining soybean dregs can provide a rough or grainy texture that is uncomfortable to drink, so the filtering process ensures that the resulting soy milk is smooth and delicious to consume. By removing coarse particles, the resulting soy milk has a softer and more consistent texture. This makes soy milk more similar to milk in general and is preferred by consumers. Filtering can also help reduce the bitter or unpleasant taste that may be present in the soybean dregs, so that the taste of the soy milk becomes more neutral and delicious. In addition, the filtered soybean dregs contain coarse fiber and other large particles that are less soluble in liquid. By filtering it, soy milk becomes easier to digest and absorb by the body because its nutritional content is already in optimal liquid form.

The liquid form of soybeans, which is then called soy milk, is then cooked by boiling. Boiling soy milk is an important step in making soy milk to ensure the quality, taste, and safety of the product. Boiling heats the soy milk to a temperature high enough to kill any microbes, bacteria, or pathogens that may be present, making the soy milk safer to consume. Boiling can also help extend the shelf life of soy milk because this process minimizes the risk of microbial contamination.



ISSN
2580-4332 (online)
DOI: https://doi.org/10.21009/JPMM.009.2.06

The main ingredient is 4 kg of soybeans after being added with 20 liters of water, producing ± 19 liters of soy milk. Soy milk is then mixed with flavoring ingredients, namely sugar and palm sugar, as well as aroma ingredients such as caramel, vanilla, or fruit flavors. During the training, Mrs. Mauren also taught how to make caramel. Namely by cooking white sugar without any other additives. The sugar is burnt until it is brown, the browner the sugar, the stronger the caramel aroma will be, but the taste will be more bitter. Therefore, the sugar is not burned for along time. Furthermore, the finished soy milk is packaged in bottles that have been given stickers or packaging labels.

**Figure 10.** Together with the Resource Person, Participants Pack Soy Milk

Training participants carefully put soy milk into the packaging. There are two packages used, namely 250ml bottle packaging and 200ml standing pouch packaging.

## 2. Participant Response to Training

During the training, participants looked very enthusiastic, starting from listening to the speaker's explanation carefully and occasionally taking notes and asking questions, playing an active role during the process of making soy milk, to the evaluation process and clearing up the tools and practicum location. Before the training, participants were given a pre-test first. The pre-test provides an overview of the extent of the participants' understanding or skills before starting the program. This helps teachers or trainers to know the level of initial knowledge of the participants. The pre-test functions as an initial benchmark that can later be compared with the results of the post-test. With the pre-test, the progress or improvement of participants' abilities after the program can be evaluated more accurately. In addition, the pre-test can provide initial information that is useful for



ISSN
2580-4332 (online)
DOI: https://doi.org/10.21009/JPMM.009.2.06

documentation, planning, and evaluation of the program. The pre-test is an important initial evaluation tool, allowing teaching that is more in line with the needs of participants and providing a basis for measuring the results and effectiveness of the program objectively.

There are four assessment indicators, namely 1) knowledge of soy milk making ingredients; 2) knowledge of soy milk making equipment; 3) procedures and processes for making soy milk; and 4) criteria for results and storage of soy milk. From Figure 11, the knowledge of training participants regarding making soy milk is still very low. The highest level of knowledge is in the material knowledge indicator, while the lowest is in the manufacturing process. This is because most of the training participants have never drunk and made soy milk. Experience has a major influence on knowledge, both in formal and informal learning contexts. This is in line with the opinion of Miranti, M. G., et al (2022) who stated that direct experience provides an opportunity to understand concepts practically. According to Miranti, M.G & Wilujeng (2018) when someone applies a theory or concept in a real situation, their understanding of the concept usually becomes deeper and more contextual. In addition, knowledge gained through experience tends to be easier to remember. This is because direct experience involves active interaction and problem solving, which helps the brain remember information longer than just reading or hearing. Overall, experience not only increases knowledge but also deepens understanding, improves practical skills, and builds more comprehensive insights. This makes experience an important part of the lifelong learning process.

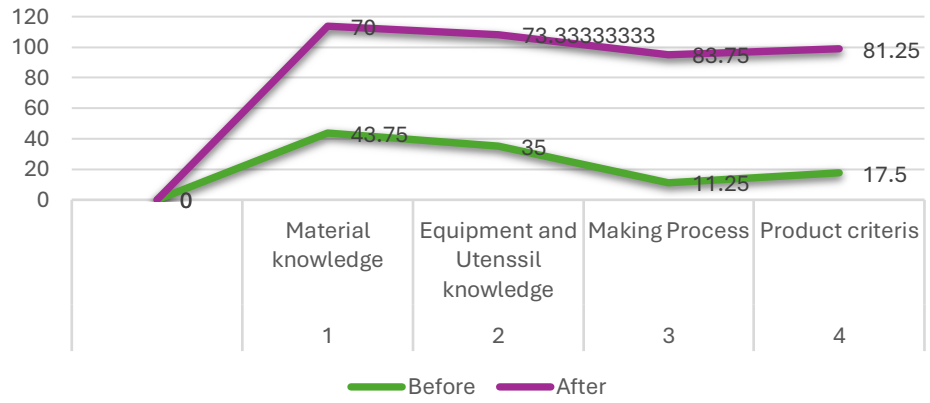


**Figure 11.** Comparison of Pre-test and Post-test

One of the objectives of training is to improve hard skills (Miranti, M.G. et al., 2021). Hard skills are technical skills or specific knowledge that can be measured and learned through formal education, training, or work experience. Hard skills are usually directly related to a particular task



ISSN 2580-4332 (online)
DOI: https://doi.org/10.21009/JPMM.009.2.06

or job and are easier to identify and evaluate than soft skills. These abilities often involve practical or technical expertise needed to perform a particular role in a job. One example of hard skills is food and beverage processing skills such as soy milk. From Figure 11, there has been an increase in skills in making soy milk.

Training plays an important role in improving a person's knowledge and skills, both in the work environment and in personal development (Miranti, M.G. et al., 2021). According to them, training provides the latest and relevant information on a particular topic, which allows participants to understand new concepts, technologies, or developing methods. This new knowledge helps a person become more competent in their field and able to face ever-changing challenges. Training that focuses on technical skills (hard skills) such as food processing, allows participants to acquire and practice specific skills needed for job tasks. With repeated practice, these technical skills become more proficient and efficient. When a person feels more skilled and has strong knowledge, their confidence also increases. This helps in facing new challenges and taking on greater responsibilities. Training can help a person develop adaptability, especially when introduced to changes in technology or new work methods. According to Mauren, M.G. et al (2021) training makes a person more flexible and ready to face changes that occur in the world of work, because with intensive training, participants can learn effective ways to complete work and understand the right steps, which ultimately reduces the learning curve and increases productivity. Training provides an impetus for continuous learning by inspiring participants to continue to update their knowledge and skills proactively. Overall, training helps build a strong foundation of knowledge and relevant practical skills, which ultimately supports the long-term success of individuals and organizations.

In addition to evaluating using pre-tests and post-tests, the evaluation also uses the responses of training participants to facilities, infrastructure and activity services. Responses to training can vary depending on the participants' perception, experience, and readiness to receive the material presented. The following are the results of the training participants' responses:



ISSN 2580-4332 (online)
DOI: https://doi.org/10.21009/JPMM.009.2.06

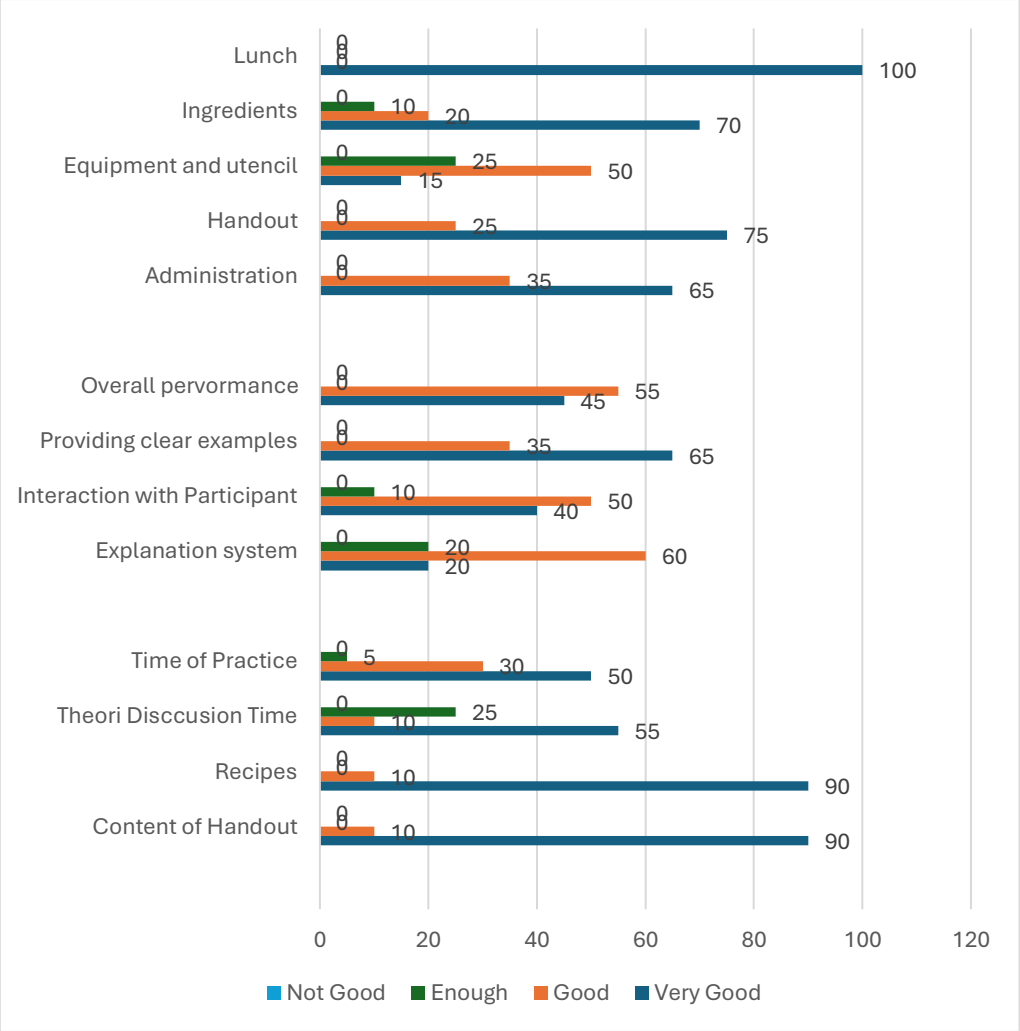


**Figure 12.** Training Participant Responses

Based on Figure 12 regarding training participant responses, in general participants responded well. This can be seen that all indicators are generally in the good and very good categories. The responses given by training participants are important for the organizers to evaluate. This helps in improving the quality of future training and ensures that the material presented remains relevant and useful for participants

## CONCLUSION AND RECOMMENDATION

Based on the result, the conclusions are:

1. The implementation of the training went smoothly according to the planned stages and training attributes, where participants were given basic materials related to soymilk processing, then after that they practiced making soy milk together.
2. Making soy milk begins with soaking the beans overnight. Then the soybeans are blended with the addition of water as much as 1:5 and filtered to get the juice. Next, the soybean



ISSN 2580-4332 (online)
DOI: https://doi.org/10.21009/JPMM.009.2.06

juice is cooked at a temperature of 100$^{O}$C which functions to kill microbes, bacteria, or pathogens that may be present, and helps extend the shelf life of the soy milk. During boiling, sugar is added as much as 5-15% to improve the taste of the soy milk.

3. Before the training, participants were given a pre-test first. The pre-test provides an overview of the extent of the participants' understanding or skills before starting the program. There was an increase in understanding from before and after the training.
4. In terms of participant responses to the activities, participants generally responded well. This can be seen that all indicators are generally in the good and very good categories

This community service activity has proven to be able to make a positive contribution in supporting the development student hard skill, especially motivation in entrepreneurship. It is better if training activities like this are routinely carried out by schools.

## REFERENCES

Windusancono, Bambang Agus. (2021). UPAYA PERCEPATAN PERTUMBUHAN USAHA MIKRO KECIL DAN MENENGAH (UMKM) DI INDONESIA. Jurnal MIMBAR ADMINISTRASI, Vol. 18 No. 1 (2021): April.

Nur, D. R.., Gultom, T.., Dewi, I. I.., & Maliki, B. I.. (2023). STUDY LITERATURE: STRATEGI PENGEMBANGAN WIRAUSAHA KECIL MENENGAH MASYARAKAT DESA DAN BISNIS YANG TANGGUH UNTUK MENGHADAPI ERA SOCIETY 5.0. Bussman Journal: Indonesian Journal of Business and Management, 3(3), 1147–1165. https://doi.org/10.53363/buss.v3i3.196.

Wahdiniawati, S. A. ., Lubis, F. M. ., Erlianti, D. ., Sari, V. B. M. ., Uhai, S. ., & Febrian, W. D. . (2024). KESEIMBANGAN KEHIDUPAN KERJA: MEWUJUDKAN KESEJAHTERAAN KARYAWAN MELALUI MANAJEMEN SDM YANG BERKELANJUTAN. Jurnal Review Pendidikan Dan Pengajaran (JRPP), 7(1), 728–738. https://doi.org/10.31004/jrpp.v7i1.24683.

Khairiah, N., Ananta, V., & Maula, K. (2023). PERHITUNGAN HARGA POKOK PRODUKSI DENGAN METODE FULL COSTING PADA UMKM BAKSO CILOK. Jurnal Ilmiah Wahana Pendidikan, 9(20), 561-567. https://doi.org/10.5281/zenodo.8433787.

Herlin, Effendi, yanto, & Tambunan, D. R. (2024). ANALISIS BIAYA PRODUKSI DENGAN VARIABEL COSTING DALAM MENENTUKAN HARGA JUAL EMPING MELINJO. Jurnal Ilmiah Raflesia Akuntansi, 10(2), 179–187. https://doi.org/10.53494/jira.v10i2.376

Dermawan Danny, Axcel Penalamenta Sk, Annisa Athaya, Bagus Yudha As'ad, Rahmi Yulistin, Erisa Febrianti, Gabriel Reinhart Siregar, Hadhistia Nur Ainun, Intan Nur Azizah, Jejaka Dwi Purnama, Meinisa, M. Maulana Syach Mufti, Septi Fiani, Unggi Clarissa, & Teny Sylvia. (2024). PENINGKATAN KAPASITAS SUMBER DAYA MANUSIA DESA GUNUNG AGUNG MELALUI PRODUKSI DAN PEMASARAN



ISSN 2580-4332 (online)
DOI: https://doi.org/10.21009/JPMM.009.2.06

DIGITAL MIE KERING SINGKONG . Wisesa: Jurnal Pengabdian Masyarakat, 3(1), 11–17. https://doi.org/10.21776/ub.wisesa.2024.03.1.3.

Sarwono, M.J., Sri Handajani, Dwi Kristiastuti Suwardiah, Mauren Gita Miranti. (2022). FAKTOR-FAKTOR YANG MEMPENGARUHI MINAT BERWIRAUSAHA PADA SISWA SMK. Jurnal Sains Boga Vol. 5 No. 1, Page 15-22 E-ISSN: 2622-5557. https://doi.org/10.21009/JSB.005.1.02.

Mita, N. W., & Herawati , M. M. (2024). ANALISIS KARAKTERISTIK FISIK DAN KIMIA ES KRIM BERAS MERAH (ORYZA NIVARA) DENGAN SUBSTITUSI SARI KEDELAI (GLYCINE MAX). Agroteknika, 7(2), 98-110. https://doi.org/10.55043/agroteknika.v7i2.260

Giugliano, R., Musolino, N., Ciccotelli, V., Ferraris, C., Savio, V., Vivaldi, B., Ercolini, C., Bianchi, D. M., & Decastelli, L. (2023). Soy, Rice And Oat Drinks: Investigating Chemical And Biological Safety In Plant-Based Milk Alternatives. Nutrients, 15(10), 2258. https://doi.org/10.3390/nu15102258.

Reyes-Jurado, F., Soto-Reyes, N., Dávila-Rodríguez, M., Lorenzo-Leal, A. C., Jiménez-Munguía, M. T., Mani-López, E., & López-Malo, A. (2021). PLANT-BASED MILK ALTERNATIVES: TYPES, PROCESSES, BENEFITS, AND CHARACTERISTICS. Food Reviews International, 39(4), 2320–2351. https://doi.org/10.1080/87559129.2021.1952421.

Has, D. F. S., Yuliati, L., & Wulandari, D. (2024). Digital Marketing dalam Meningkatkan Keunggulan Kompetitif Kerupuk Singkong Desa Petung Kabupaten Gresik: Digital Marketing in Increasing Competitive Advantage "Kerupuk Singkong Ma'yah" Petung Village Gresik District. PengabdianMu: Jurnal Ilmiah Pengabdian Kepada Masyarakat, 9(4), 609–620. https://doi.org/10.33084/pengabdianmu.v9i4.6662.

Dewi, Nurlela Kumala., Adriant, Irayanti., dan Nugraha, Dimas Vatoni Adi. (2024). ANALISIS PENGARUH BAHAN, FUNGSI, WARNA, DAN BENTUK KEMASAN TERHADAP MINAT BELI KONSUMEN ARS STUDIO DI SURAKARTA. Vol. 7 No. 4 (2024): Musytari : Neraca Manajemen, Akuntansi, dan Ekonomi. https://doi.org/10.8734/musytari.v7i4.4951.

Parrini, S., Aquilani, C., Pugliese, C., Bozzi, R., & Sirtori, F. (2023). Soybean Replacement by Alternative Protein Sources in Pig Nutrition and Its Effect on Meat Quality. Animals, 13(3), 494. https://doi.org/10.3390/ani13030494.

Kurniawan, Hadi., Nugraha, Fajar., Agus Raya, Bart. (2024). Analisis Kadar Kalsium pada Minuman Susu Kedelai di Kota Pontianak Menggunakan Spektrofotometri Serapan Atom. Journal Syifa Sciences and Clinical Research Vol 6, No 1(138-146). https://doi.org/10.37311/jsscr.v6i1.25692.

Silvia, Shinta. (2023). Analisis Total Coliform Pada Susu Kedelai Usaha Kecil Menengah Di Kota Padang. Jurnal Sains dan Teknologi, V. 20, No. 1, Pg. 1-5 doi: http://dx.doi.org/10.31258/jst.v20.n1.p1-5.

Murni, L., Manshur, H. A., & Saati, E. A. (2024). Karakteristik Fisiko Kimia dan Organoleptik Bakso Vegetarian Berbasis Tempe Kacang Kedelai dan Kacang Merah (Phaseolus



ISSN 2580-4332 (online)
DOI: https://doi.org/10.21009/JPMM.009.2.06

vulgaris L.). Food Technology and Halal Science Journal, 7(1), 73–86. https://doi.org/10.22219/fths.v7i1.28527.

Lestiarini, N., & Rindiani, R. (2023). Tepung Kedelai dan Tepung Daun Kelor dalam Pembuatan Crispy Cookies Sebagai Makanan Selingan Cegah Wasting. Jurnal Kesehatan, 11(1), 20–32. https://doi.org/10.25047/j-kes.v11i1.276.

Miranti, M. G., Handajani, S., Pangesthi, L. T., Astuti, N., Bahar, A., & Widagdo, A. K. (2022). Education on Sanitation and Hygiene Knowledge on Food Vendors in Semolowaru Culinary Tourism Center (CTC) Surabaya. Jurnal Pemberdayaan Masyarakat Madani (JPMM), 6(2), 351–367. https://doi.org/10.21009/JPMM.006.2.10.

Miranti, Mauren Gita & Wilujeng, Biyan Yesi. (2018). Creative Thinking Skills Enhancement Using Mind Mapping. Proceedings of the 1st International Conference on Social, Applied Science and Technology in Home Economics (ICONHOMECS 2017) Atlantis Press pg. 39-42 ISSN: 2352-5398. https://doi.org/10.2991/iconhomecs-17.2018.9.

Miranti, M.G., Niken Purwidiani, Ita Fatkhur Romadhoni, Rita Ismawati. (2021). Pemberdayaan Kesehatan Melalui Pelatihan Pengolahan Jajanan Sehat, Bergizi, dan Aman Berbasis Pangan Lokal. Jurnal Abdi Vol.6 No.2 Januari 2021, hal. 80-85. https://doi.org/10.26740/ja.v6n2.p80-85.



ISSN
2580-4332 (online)
DOI: https://doi.org/10.21009/JPMM.009.2.06