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Establishment of Small Medium Enterprise (SMEs) at Babussalam Al-Firdaus Islamic Boarding School, Karangploso, Malang

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ABSTRACT

The Babussalam Al-Firdaus Islamic Boarding School is located in the village of Bocek, Karangploso, Malang Regency, East Java. The owner of the boarding has been produced pasteurized milk which is performed by the students. Some of the obstacles faced by the students are the short shelf life of pasteurized milk about 5-7 days at 4°C storage temperature, non-standard packaging, and the limitations of product distribution and marketing. The owner of the Babussalam Al-Firdaus Islamic Boarding School has a plan to develop dairy and bakery products. However, the students have limitation of knowledge and skills in processing those products, and the boarding school has limitation of processing equipment. To overcome these problems, our team, initiate the establishment of SMEs involving students at the Babussalam Al-Firdaus Islamic Boarding School through diversification of dairy-based processed products and bakery products. Firstly, introduction of some lectures including bakery products technology, milk processing technology, packaging and storage technology, food quality assurance and Good Manufacturing Practice (GMP). Secondly, product trials and training activities are carried out offline by implementing health protocols due to the Covid-19 pandemic at the Food Production and Training Center (FPTC), Universitas Brawijaya. Some processing equipment was given to Islamic boarding schools to facilitate the production of bakery and dairy products. The new SMEs in the field of bakery and dairy products can be executed through the empowerment of students so as to provide additional income for the Babussalam Al-Firdaus Islamic Boarding School to be financial independence..

KEYWORDS

Establishment of SMEs, Babussalam Al-Firdaus Islamic Boarding School, Dairy products, Bakery products

Islamic boarding school is one of the educational institutions that has been built for a long time in Indonesia and is an integral part of the development of public education. In Indonesia, there are more than 9,000 Islamic boarding schools that are established and spread throughout the region. The role of Islamic boarding schools in the beginning was more concerned with developing students or students in the religious sciences and da'wah. Current developments require boarding school to become an integral part of society to develop and

empower the community in all fields including the economic field. One of the boarding schools in Malang district which is expected to play a role in building economic independence for its students is the Babussalam Al-Firdaus Islamic Boarding School.

The Babussalam Al-Firdaus Islamic Boarding School is a modern Islamic boarding school located in the village of Bocek, Karangploso, Malang Regency, East Java. This boarding school aims to educate the people in a miniature world, which is built on the basis of the values of

faith, Islam and ihsan in a kaffah manner. Since 2007, the modern Babussalam Al-Firdaus Islamic boarding school has continued to innovate in education, culture and economy. This Islamic boarding school is an Islamic educational institution that prioritizes the formation of good personality and attitudes, as well as the cultivation of Islamic religious knowledge. Efforts to build economic independence have been carried out by this Islamic boarding school by establishing a canteen and producing pasteurized milk.

Milk is a dairy product that has a high nutritional content. According to [1-3] the water content in milk is very high, which is around 87.5% with a sugar content of about 5% lactose, 3.5% protein and 3-4% fat [2]. Milk is a perishable commodity or easily damaged if it is not stored in good conditions [4-5]. Milk can rot only last a few hours at room temperature. The high-water content and nutritional components in milk cause susceptible to physical, chemical and especially microbiological damage. This leads to the potential for reduced income as milk becomes unutilized. Milk is one of the commodities developed because it is close to the milk-producing community. So far, milk is only processed by a simple process into pasteurized milk, which has a short shelf life so that marketing locations are limited. According to [6], the shelf life of pasteurized milk products at 4°C is between 5-7 days [7-8]. One alternative to prevent milk decay is to process it into bakery products such as bread, cake, pastry, or dairy products such as candy and yogurt.

To produce the alternative products, the students do not yet have knowledge of appropriate technology to process milk into more varied processed products. The students at the Babussalam Al-Firdaus Modern Islamic Boarding School need to receive training to be able to process milk into products that have more potential in the market. Through community service program "Doktor Mengabdi", the students at boarding school are expected to be able to increase their knowledge, able to produce a variety of processed food products, can increase the economic value and prolong the shelf life of milk and bakery-based products. The training and mentoring carried out in this service activity is expected to make the boarding school a new SME based on milk and bakery processing that has strong economic independence.

The aim of this program is 1) to disseminate processing technology to the students of the Babussalam Al-Firdaus Islamic boarding school, and 2) to provide the economic or financial independence of the Babussalam Al-Firdaus Islamic boarding school by establishing SMEs based on milk processing and bakery products.

METHODOLOGY

The method of Doktor Mengabdi program consist of observation, discussion or counseling, trials and training, demonstration or practice, monitoring, evaluation and post-program counseling/consultation to evaluate the effectiveness of the program.

Data Collection

The data collection stage carried out by students' field work who are involved in Doktor Mengabdi activities. This data collection provides the benefits of information that is expected to be more detailed so that the planned problem solution will be suitable on target. The data collection stage includes: 1) Identification of problems faced by the Babussalam Al-Firdaus Islamic boarding school, 2) Identification of processed products that have been carried out by the Babussalam Al-Firdaus Islamic boarding school, 3) Identification of resources at the Babussalam Al-Firdaus Islamic boarding school, including the potential of students for the establishment of SMEs, 4) Identification of alternatives to dairy and bakery products.

Training in Food Processing Technology

In this stage, several trainings on processing technology, packaging techniques and food quality assurance are given to community service partners. This activity will be carried out comprehensively so that more varied products can be produced for consumers. The quality of existing products will be developed to be of higher quality. The following are several types of training that will be provided to service partners. 1) Training on the manufacture of various milk-based products such as yogurt, kefir, milk candy). 2) Training on making various bakery products (various breads, various pastries, various cakes). 3) Assistance in the production of dairy products and various bakeries. 4) Training on packaging and storage techniques. 5) GMP implementation training for service partners. The online lectures were delivered to the students through Zoom Meeting platform.

The practices were performed offline at the Laboratory of Food Production and Training Centre (FPTC), Department of Agricultural Product Technology, Universitas Brawijaya.

Business Management and Marketing Assistance

The stage of mentoring business management and marketing is very important because it can increase the income and welfare of community service partners (Babussalam Al-Firdaus Islamic Boarding School). Some of the activities that can be provided at this stage include: 1) Training on economic calculations and business feasibility (calculation of NPV, IRR, B/C ratio, and also payback period), 2) Assistance with Strength, Weakness, Opportunity, Threat (SWOT) analysis to determine a good and appropriate marketing strategy [9], 3) Assistance in preparation for the registration of Home Industry Products (PIRT), 4) Assistance to build marketing networks both conventionally and online, 5) Business evaluation

RESULTS AND DISCUSSIONS

Trials and formulation of dairy and bakery products

Experiments on the formulation of dairy and bakery products are assisted by students who are involved in the Doktor Mengabdikan Program. Experiments were conducted to determine the optimal process and formulation stages in the processing of milk and bakery products. The experimental product is presented on **Figure 1**.

(a)



(b)



(c)



Figure 1. Bakery Products a) bread and sweet bread, b) pizza and doughnut, c) cake and pastry

Students training in food processing technology (theory and practice)

Delivering course

Extension activities were carried out to increase the knowledge of community service partners (students and owner at the Babussalam Al-Firdaus Islamic Boarding School, Malang). The lectures were given in the Doktor Mengabdikan Program provided online through Zoom Meeting platform. Activities for delivering lectures include dairy/milk processing technology, bakery processing technology, packaging and storage technology, and quality assurance and food safety. Each lecture was delivered to the students about 1.5 h.

Practice for the students

Food product training is carried out in stages to equip students to understand and practice dairy products and bakery products. Documentation of training activities can be seen in **Figure 2** and **Figure 3**. Practical activities are planned to be carried out after PPKM and look at the current conditions of the Covid-19 pandemic. All activities that involve physical contact will be carried out under conditions that allow. The

practice is carried out offline at the Food Production and Training Center (FPTC) THP FTP UB.

Based on the problems faced by service partners, so far, the Babussalam Al-Firdaus Islamic Boarding School only processes fresh milk into pasteurized milk. The students have never processed fresh milk into other products such as yogurt, kefir, and cheese. In this service, the students will get a module on milk processing technology (**Figure 5**) and training in the manufacture of dairy products so that they are able to process independently.

Apart from dairy products, partners have never processed bakery products. This is very potential to be considering that the raw material for milk can also be used for making bread and cake products. Some bakery products that can be made include white bread, sweet bread, donuts, brownies, banana cake, and so on. In this service, the students will receive a module on bakery product processing technology and training on making bakery products so that they are able to process them independently.

The search for the appropriate specifications and in accordance with what is needed by the Babussalam Al-Firdaus Islamic Boarding School has been carried out and the equipment for the manufacture of dairy and bakery products, namely freezers and refrigerators has been provided. The processing equipment was given in September 2021, then a trial of the tool was carried out at community service partners. The following are the specifications of the tools given to community service partners.

So far, pasteurized milk products are packaged in plastic bottles used for mineral water. Besides being less hygienic, the packaging used is considered less attractive in terms of aesthetics when compared to commercial products on the market. Based on this, the packaging technology of pasteurized milk and dairy products and bakery products that are safe and attractive is urgently needed. Dairy and bakery products can be packaged with food-grade packaging materials, which have an safety, attractive, informative, easy-to-use and environmentally friendly.



Figure 2. The practice of milk processing technology



Figure 3. The practice of bakery processing technology

Provision of processing equipment for community service partners

Good manufacturing practices

Hygiene and sanitation are the main problems faced by new and existing industry implementers. GMP or commonly referred to as Good Food Production Methods (CPPB) is a guideline to ensure the food safety of Home Industry (PIRT). So that with the socialization of GMP or CPPB, quality, safe and suitable food products are produced. According to [10] GMP or CPPB is a fundamental or fundamental requirement for the food industry before obtaining a PIRT certificate.

At this stage, collaboration is needed involving members of the students of the Babussalam Al-Firdaus Islamic Boarding School for the establishment of a milk and bakery production business unit, guidance for the production and marketing of dairy products, business economic calculations, product design planning and promotion, marketing and business evaluation.

Monitoring and Evaluation

Monitoring is carried out to determine the independence of service partners in producing bakery and milk products. The staff from Research institute and community service of Universitas Brawijaya were also attend in this activity to monitor and evaluate the overall program.



**Figure 4. Monitoring and evaluation of Doktor Mengabdikan Program
Module of Doktor Mengabdikan Program**

Appropriate technology modules are arranged to equip students at the Babussalam Al Firdaus Islamic Boarding School in producing bread and milk products. The module is also use as one of outcome of this program and for documentation purpose.

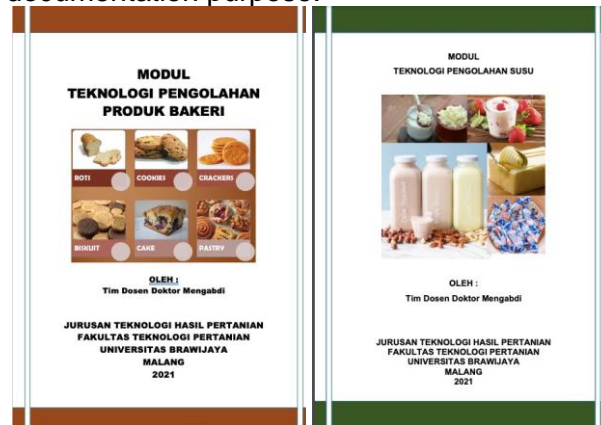


Figure 5. Module cover of milk and bakery processing technology

Publication through online media

Publication of community service activities has been carried out on two online media, namely FTP UB as shown in the following link (<https://tp.ub.ac.id/en/dosen-ub-initiasi-pendirian-ukm-berbasis-olahan-susu-dan-bakeri-di-pondok-pesantren-babussalam-al-firdaus-karangploso/>). The publication is also carried out through Prasetya online as shown in the following link (<https://prasetya.ub.ac.id/trashed-5/>).

Conclusions

Several works were made to increase the knowledge of students, through observation, discussion, lectures, practices of bakery and milk processing technology, packaging and storage technology, and Good Manufacturing Practice (GMP). The formulation of bakery and dairy products is done by students before practical activities. Practice activities are carried out offline by implementing the Covid-19 health protocol. Efforts to initiate the establishment of SMEs at the Babussalam Al-Firdaus Islamic Boarding School were carried out by providing equipment at the end of September to support routine production activities. Books or processing modules are also provided along with the provision of tools. Suggestions that can be submitted for future programs are intensive assistance to service partners for the processing of dairy and bakery products. In addition, it is

necessary to provide assistance related to packaging and assistance in the preparation of PIRT permits and marketing strategies for processed products.

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