

Bakery Industry Training Assistance For Excellent Service Agency (ESA) Training Center Malang

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Abstract.

Excellent Service Agency (ESA) is an educational institution for the service and service industry in the city of Malang, which is engaged in training in the hospitality industry, especially in the fields of tourism, hospitality, and self-development. ESA has difficulties in providing professional HR education in the bakery industry due to a lack of equipment, besides that ESA also lacks insight into food safety to support the quality of bakery products that will be produced, even though safety assurance is one of the determinants of competitiveness in both the domestic and international markets. ESA is also less able to expand its market share because it has not implemented digital marketing. The methods that have been carried out include: 1)Assisting ESA with 5 types of bakery processing equipment for ESA to train more professional human resources in the F&B field; 2). Training on Good Manufacturing Practice (GMP) and Food Sanitation; 3) Training and practice of diversifying bakery and cake processing from wheat flour and composite flour; The results of this activity include increasing understanding and insight for ESA employees and students as well as UPN Veterans East Java students about 1. The Role of Good Manufacturing Practice (GMP) and Food Safety for the Bakery Industry; and 2. Basic Theory and Diversification of Bakery Product from Wheat Flour and Composite Flour.

Keywords: ESA, GMP, diversifying, bakery product, flour and composite.

I. INTRODUCTION

The bakery industry, both on a large and small scale, has great prospects and continues to grow. In 2011 the total growth of this industry reached 7-10% with a turnover of 14 trillion rupiah. Meanwhile, in 2014, its growth increased to 15% with a total turnover of 20 trillion rupiah, based on data from the Indonesian Bakery Entrepreneurs Association (APEBI). The bakery industry in Indonesia continues to grow by bringing up very strict problems, so it is necessary to create new products that are more innovative to make them more attractive(Sitanggang, 2016).*Excellent Service Agency (ESA)* is an educational institution for the service and hospitality industry in the city of Malang which is officially licensed by the Ministry of National Education and is engaged in training the service and service industry (hospitality industry), especially in the fields of tourism, hospitality, and self-development. To support its activities, ESA collaborates with several vocational schools in Malang, especially Tunas Bangsa Vocational School and Ardjuna 2 Malang Vocational School for hospitality education issues. Unlike similar educational and training institutions, ESA does not charge high tuition fee, ESA only charges IDR 3,500,000 per year while similar training institutions usually charge from IDR 11 million to IDR 20 million per year . This is because, apart from being a business entity, ESA also has a social mission, namely empowering young people from underprivileged and less fortunate groups so that they can work in the hotel and tourism industry.

ESA plans to develop a job fair partnership for the bakery industry. One of the bakery industries that have joined is Palmarum Bakery, and together with ESA, they planned to develop a variety of bakery

products. The purpose of this development is due to market demand and business diversification, as a way to make each bakery have special characteristics compared to its competitors. Based on the things described above, the construction of a bakery and pastry training room for ESA is a very urgent need, considering that they have received a number of requests from the hotel and F&B industry in Malang Raya to fill the shortage of professional workers in the food and beverage sector. , to be precise, cook helpers, including cook helpers who master pastry and bakery. ESA, like other service and service training institutions, strives to improve the competence of its students, but the F&B skills they can run so far have only been limited to simple dishes or Asian Cuisine, which incidentally does not require too special kitchen equipment such as a dough maker and a 4 burner stove.ESA itself already has several tools such as an electric oven, wok, dough mixer and a 4 burner stove, but the current equipment is only able to train 10 students per activity. In fact, there are many prospective students and teachers of SMK who are very interested in participating in the Food and Beverage product training. Through this activity, it is hoped that ESA will get the additional tools needed. In addition, ESA will be accompanied by UPN "Veteran" East Java academics to gain knowledge in the field of Good manufacturing practice GMP and diversification of bakery products. With this, it is hoped that ESA can improve the quality of its education in producing competent human resources in the field of Food and Beverage products.

One way to make unique and different products of bakery is by using composite flour. Composite flour is simply defined as a mixture of various types of flour (two or more types), either between wheat flour and non-wheat flours, or between non-wheat flours with different sources; which can be used as the main component in bakery products(A. Prasetyo & Sinaga, 2020). This mixing aims to obtain the physico-chemical characteristics of flour that support the achievement of the desired quality characteristics of the bakery product. The bakery industry generally has wheat flour as its raw material(H. A. Prasetyo, 2019). Wheat as a source of wheat flour is not suitable for agroecologically planted in Indonesia. Almost 100% of wheat seeds are imported from foreign countries, such as Ukraine, Australia, Canada, and the United States. The application of mixing composite flour is to make sure bakery industry in Indonesia stay afloat in business when wheat flour is rare or its price rose sharply(Nasution & Yolandha, 2022).

II. METHODS

Steps of Activities

The steps of implementing our community service (PKM) activity can be described with the following steps as seen on Figure 1.

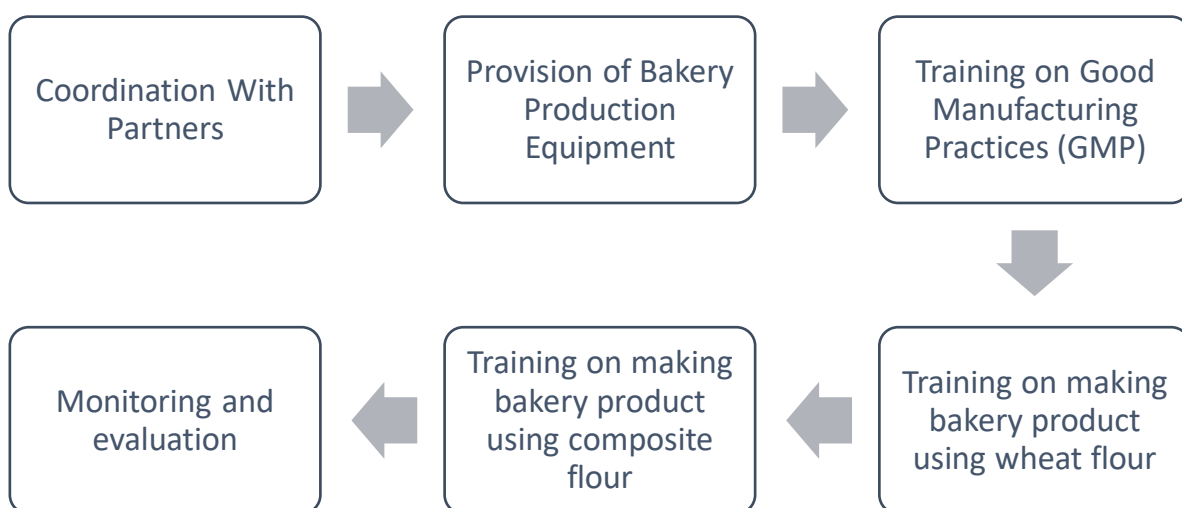


Fig 1. Steps of Activities in Community Service

Community service activities began with a coordination meeting to determine the necessity of ESA as our partner, followed by the procurement of bakery production equipment. After the goods have been ordered, the training activity begins with training on Good Manufacturing Practices (GMP), which includes training on sanitation and hygiene in food production. This GMP training is very important considering that not all MSME practitioners, especially MSMEs engaged in the food sector, understand and apply the GMP concept in their production process.(Araújo, Zandonadi, Tenser, Farage, & Ginani, 2019; Ristyanadi & Hidayati, 2012). After understanding the basics of GMP, participants were invited to understand more about ways to diversify bakery products made from wheat flour. At this stage, participants are taught the basics of choosing the ideal wheat flour for various preparations, for example, to make bread we need a mixture of 80% high protein flour and 20% low protein flour.

In addition, participants were also taught how to make dough, use a dough maker machine, form dough, do proofing and operate the oven. The next stage is the stage of diversification using composite flour. Composite flour is flour made from two or several types of food ingredients. The aim is to obtain the characteristics of suitable materials as processed products with certain functional characteristics or to substitute materials that are scarce or unavailable (A. Prasetyo & Sinaga, 2020; Sitanggang, 2016). To produce bakery using composite flour is not so different as regular bakery production, the only difference lies in the composition of the dough flour. This process is a bit complicated because the amount of water, eggs, and flour must be adjusted in such a way that the bakery products will not become sodden. After the training is given, ESA will be asked to carry out bakery production and training activities for several months and at the end of the program an evaluation will be carried out on the results of ESA's work.



Fig 2. Cassava and sweet potato, some of the ingredients that can be used in composite flour

III. RESULTS AND DISCUSSION

Community service activities at the Excellent Service Agency (ESA) begin with the coordination of the service team with partners (ESA) to determine the schedule for implementing the program activities, involvement of students and other parties and preparation of venues, equipment and training materials. The realization of the program activities that have been carried out are as follows:

1. Provision of Bakery Production Equipment
2. GMP Training
3. Bakery Production Using Flour
4. Bakery Production Using Composite Flour

1. Provision of Bakery Production Equipment

For the purposes of Food and Beverage product training for students, ESA already has several equipments such as electric ovens, woks, dough mixers and 4 burner stoves, but the equipment currently available is only able to train 10 students per activity. In fact, many prospective students and vocational school teachers are very interested in participating in Food and Beverage product training. By providing assistance with bakery processing equipment to ESA, it is hoped that ESA can train more F&B human resources in a professional manner.



Fig 3. Handover of production equipment provision from the UPN "Veteran" East Java PKM team to ESA

In this activity, production equipment assistance was handed over which is expected to be able to train more F&B human resources in a professional manner. Production equipment assistance was handed over directly by the PKM team leader Dr. Drh. Ratna Yulistiani, MP. to the owner of the Excellent Service Agency (ESA) Mr. Prasetyo Aji Prakoso, S.E. Par, M.M. The list of details of the equipment handed over is as seen on table 1:

Table 1. List of bakery processing tools provision

No.	Nama Barang	Specification	Quantity(Unit)
1.	Trolley Rack (1Meter)	Specification : <ul style="list-style-type: none"> Material: holo steel 2.5 x 2.5mm. Dimension: 100x60x40cm. Function: Trolley for a baking dish and preparing the bakery dough.	1
2.	Mixer DoughB20	Specification: <ul style="list-style-type: none"> Body material: iron Pan material: stainless stell. Size HL-B20 mixer. Power : 750 watt Function : as a mixer for bakery dough.	1
3.	Proofer 10 Tray 120 x 60 x 40 cm	Specification : <ul style="list-style-type: none"> Material : holo steel 2.5 x 2.5mm , galvanized plate 0,7mm , aluminum elbow, glass door. Size :120x 60x40cm . Power : LPG gas + single burner LPG stove Function : bakery dough development.	1
4.	Freezer BoxGEA 100L	Specification : <ul style="list-style-type: none"> Material : plastic. 	1

		<ul style="list-style-type: none"> • Dimensions : 111,5x 56,5x 85cm. • Capacity : 100 liters • Power : 100 watt Function: keep food, ingredients, and drink on frozen state	
5.	Dough Table 110x60x80 cm	Specification : <ul style="list-style-type: none"> • Materials : holo steel 2.5 x 2.5mm, triplek 12mm, plat stainless 0,6mm. • Dimensions : 110x60x80cm. Function : dough forming place	2

2. Training "Application of Good Manufacturing Practices (GMP) and Sanitation in the Bakery Industry"

The training activity entitled "Application of Good Manufacturing Practices (GMP) and sanitation in the Bakery Industry" was attended by some students and teachers of some Vocational Schools and also by UPN Veteran Jawa Timur's students. The materials provided in this training include:

- GMP's Definition and Scope
- Usefulness of GMP implementation for business actors/companies/industry
- Strategy in implementing GMP
- GMP linkage with SSOP (Standard Sanitation Operating Procedures)
- The SSOP that generally consist of 8 main aspects that must be considered and must be implemented (steps) by business actors/companies.



Fig 4. Training of "Implementation of Good Manufacturing Practices (GMP) in Bakery Industry"

Initially only 3 persons that understood the importance of sanitation and food processing methods according to GMP standards. After the training of 18 participants, 14 persons understood the importance of sanitation and 12 persons understood how to process food according to GMP standards. The visualization of training result can be seen or Figure 5 and 6.

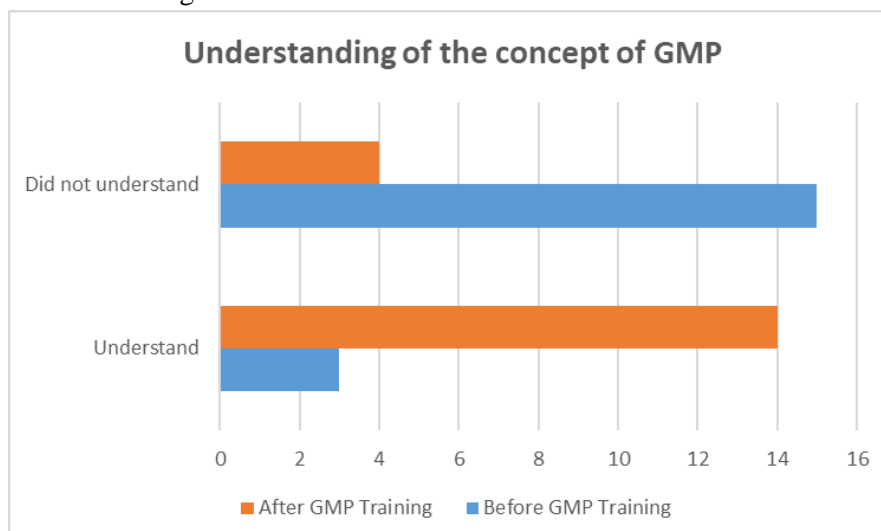


Fig 5. Understanding of GMP Concept

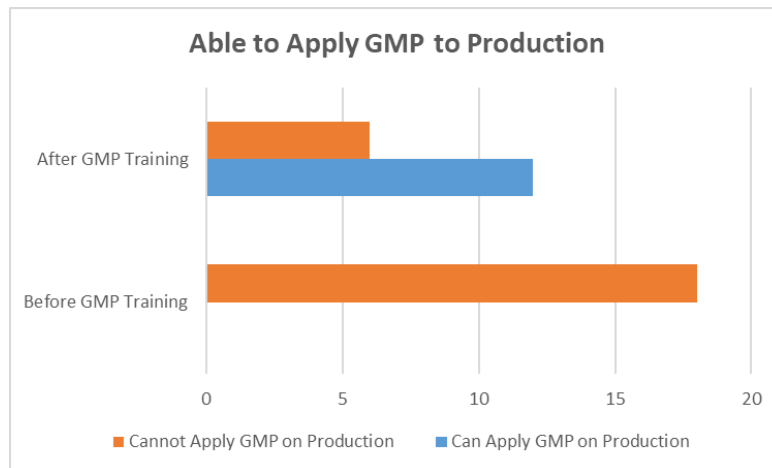


Fig 6. Ability to Apply GMP on Food Production

3. Training and Practice of Basic Bakery Production from Wheat Flour and Composite Flour

The training activity of Basic Bakery Production from Wheat Flour and Composite Flour was attended by students and teachers of Vocational Schools and student from UPN Veteran Jawa Timur. As a trainer, we invite ex-baker of Ken Dedes Bakery Malang, Mr. Agus Wahyudi



Fig 7. The activity of bakery production

The materials provided in this training include:

- Understanding of the basic theory of Bakery Technology using wheat flour as its basis
- Understanding of the basic theory of Bakery Technology using mix of wheat flour and composite flour as its basis.
- Basic ingredients for making Bakery and its role on product quality
- Standard equipment for making Bakery
- Yeast selection technique for bakery
- Processing techniques for product development of yeast dough for Bakery
- Techniques and tricks for success in making bakery dough from wheat flour and composite flour
- Basis for the development/diversification of Bakery products from wheat flour and composite flour

To make a good bakery product using composite flour we must prepare it as follows :

1. Making composite flour-mix

For this activity we will make 200 grams composite flour. This method is done by mixing high-protein flour (contain about 13% protein) with non-wheat flour (in this case we are using dry cassava flour) with a ratio of 80%: 20%. To the flour we will add mixture, 1% (w/w) xanthan gum and mixed using a food processor.

2. Making products (sweet bread and cake)

In the process of making bread, all the ingredients needed are weighed, namely: flour, sugar, salt, butter. As additional ingredients, one egg yolk for each treatment and ¼ tsp bread improver. After the ingredients for making bread are weighed, the first stage is the flour ingredients which after being weighed are mixed with bread yeast (we are using “Fermipan” brand), sugar and all mixed thoroughly. Then the mixture is put into the bread mixer container and kneading is done with the addition of ice water little by little. Then add the egg yolks, then add the butter and salt while continuing to mix at low speed until the dough becomes smooth. The smooth dough then removed from the mixer and then left covered with a plastic sheet for 20 minutes.

Then the dough is divided into 50 grams and weighed. The doughs were rounded in a rounding process so that the surface of the dough was smooth and then left to rest covered with plastic sheets for 20 minutes. Then the dough is rolled into a flat shape and formed into a circle and the proofing process is carried out for development for approximately 45-50 minutes. After the proofing process, the dough is placed in a loaf pan and placed in the oven to bake at 185-190°C for 20 minutes. After the bread is cooked, it is removed from the bread tin and placed on a tray rack so that the heat from the bottom of the bread can escape perfectly so it doesn't cause the bottom of the bread to be invested with mold. On this phase, initially only 2 participants capable to make bakery and cake preparations from flour, but none of them understood how to process them with the addition of composite flour. After the training, 18 of the 21 participants understood how to process flour-based products, while 17 out of 21 people have understood how to make bread and cakes with the addition of composite flour. The details can be seen on Figure 8 and 9.

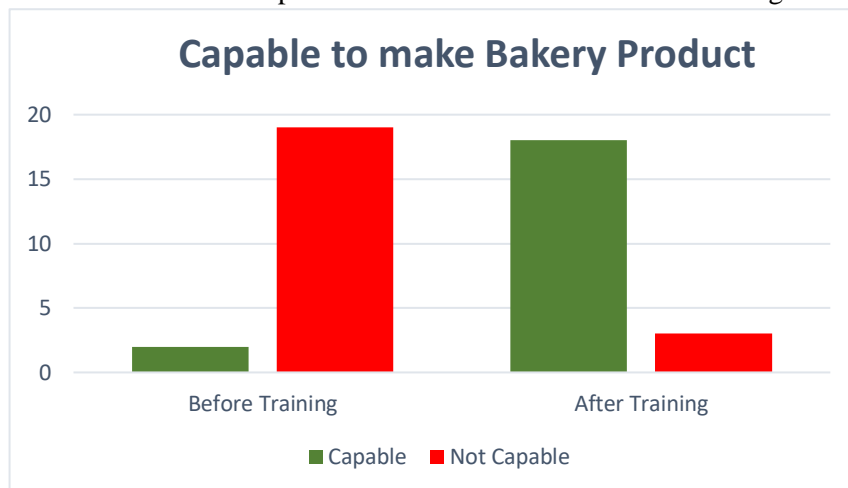


Fig 8. Result of Training on Bakery Production Using Flour

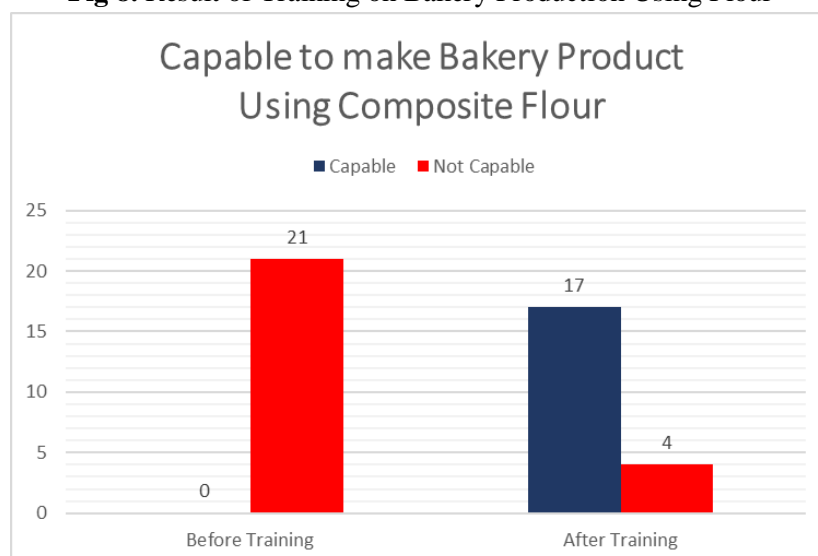


Fig 9. Result of Training on Bakery Production Using Composite Flour

IV. CONCLUSION

The community service "Bakery Industry Training Assistance for Excellent Service Agency (ESA) Training Center Malang" has been done and all the trainings has succeeded in increasing insight and skills for ESA employees and students, as well as UPN Veteran Jawa Timur's students on the importance of GMP in bakery preparations, as well as ways to diversify bakery products using wheat flour and composite flour.

Thank-you note

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