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Technical guidance on making meatballs using chicken meat as the basic ingredient to improve community' business skills

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ABSTRACT

As agents of change, community are required to acquire extensive knowledge and skills during their studies. The development of these skills should ideally be gained through practical activities during the academic process; however, this is often hindered by the lack of adequate facilities and infrastructure for practical training. This results in community not fully mastering the required skills. This science and technology application activity aims to strengthen the skills of animal science community through training in the production of meatball using chicken meat as the main ingredient. The activity was conducted at the Animal Science Department of the Faculty of Agriculture, Halu Oleo University. The methods used in the activity were as follows: (1) lectures and discussions on the potential and prospects of the bakso agroindustry and agribusiness, (2) demonstrations and guidance on meatball production, and (3) motivation for entrepreneurial spirit development. The results of the activity showed that the training materials presented received positive and satisfactory responses from the participants, as such activities had never been conducted before. Generally, the participants expressed interest in adopting the material on making baksos using chicken meat as the main ingredient. It was concluded that the target audience, consisting of animal science community, were enthusiastic and active in the technical guidance activities for meatball production. Overall, the training participants expressed a desire to engage in entrepreneurship by producing meatballs made from chicken meat.

Keyword: *Exercise, grilled meatballs, chicken meat, chicken offal*

ABSTRAK

Sebagai agen perubahan mahasiswa dituntut memiliki banyak pengetahuan dan keterampilan selama proses studinya. Penambahan kemampuan keterampilan terhadap mahasiswa seyogyanya diperoleh berdasarkan kegiatan praktikum selama proses perkuliahan, namun sering terkendala oleh ketidak siapan sarana dan prasarana praktikum yang memadai. Hal ini berdampak terhadap penguasaan keterampilan mahasiswa tidak optimal. Kegiatan penerapan ipteks ini bertujuan untuk memantapkan keterampilan mahasiswa jurusan peternakan melalui pelatihan pembuatan bakso dengan bahan dasar daging ayam afkir Kegiatan dilaksanakan di jurusan peternakan Fakultas Pertanian Universitas Haluoleo. Metode kegiatan yang dilakukan adalah dengan cara : (1) ceramah dan diskusi mengenai potensi, prospek agroindusti dan agribisnis bakso, (2) demonstrasi dan pembimbingan pembuatan bakso, (3) motivasi pengembangan jiwa kewirausahaan. Hasil kegiatan menunjukkan bahwa materi pelatihan yang disajikan mendapat respon positif dan cukup memuaskan dari para peserta mengingat selama ini belum pernah dilakukan kegiatan serupa. Umumnya para peserta ingin mengadopsi materi tentang membuat bakso dengan menggunakan bahan dasar daging ayam afkir. Disimpulkan bahwa para khalayak sasaran yang terdiri dari para mahasiswa jurusan peternakan sangat antusias dan aktif dalam kegiatan bimbingan teknis pembuatan bakso. Secara umum para peserta pelatihan berkeinginan untuk melakukan kewirausahaan dengan memproduksi bakso berbahan dasar daging ayam ras petelur afkir.

Keyword: bimbingan teknis, bakso, daging ayam, ayam afkir

1. Introduction

Higher education institutions (PT) are scientific institutions responsible for improving the quality of human resources in Indonesia. Through the learning process in the form of lectures and practical work at PT, efforts are made to transfer knowledge in the form of science, technology, arts, and culture as the basis for concepts and development in national development [1].

At Haluoleo University, one of the leading public higher education institutions in Eastern Indonesia, it serves as a prime example of a center for social science and technology development through its tridharma activities, which include education and teaching, research, and community service. However, one of the classic challenges frequently encountered is the limited infrastructure and facilities required to realize these objectives [2]. For instance, in the implementation of the educational and teaching pillar, particularly practical activities, inadequate facilities and infrastructure often hinder the process, resulting in suboptimal mastery levels among community (undergraduates).

The Animal Science Department in the Faculty of Agriculture is one example of the limited facilities and infrastructure for student practical activities, particularly in the course "Fundamentals of Animal Product Technology," which aims to introduce basic concepts about animal products, principles of handling and processing, and their preservation [3][4]. The limitations experienced so far include insufficient practical materials, inadequate equipment, and insufficient time for community to master the practical materials.

Through this community service activity, an effort is made to align community service with educational and teaching duties, specifically through training in meatball production using chicken offal as the main ingredient—a low-cost economic byproduct from layer chicken farms This activity is expected to provide community with skills in meatball production, the utilization of chicken offal as a meatball ingredient, and stimulate community' entrepreneurial spirit through the processing of low-value raw materials to generate reliable added value.

2. Methods

2.1 Location

The activity was carried out by lecturers from the Department of Animal Husbandry at Halu Oleo University and the community around the campus. Meanwhile,technical guidance is expected to disseminate the technology of making chicken meatballs to the target community and provide cooperation so that the planned transfer of knowledge can take place smoothly.

2.2 Target audience

The members of the community targeted by this outreach activity are: fifth-semester community who are taking the Basic Animal Product Technology course, as well as other community in the Animal Husbandry department who wish to increase their knowledge and skills. It is hoped that participants in this activity will be able to adopt the technologies that are taught, demonstrated, and practiced, and disseminate them to the wider community.

2.3 . Community service activity methods

The target audience, consisting of community majoring in animal husbandry [4], will carry out activities that include:

1. Attending a seminar on the introduction and processing of meatballs
2. Participating directly in a demonstration of meatball production
3. Practicing the meatball production process directly, using discarded chicken meat as the main ingredient.
4. Applying the knowledge in daily life through a commercial production plan in the form of entrepreneurial activities by the animal science student group.

The implementation of these activities was carried out in two forms:

1) Non-physical activities, including educational sessions on the meatball production process using discarded layer chicken meat as the raw material.
2) Physical activities, in the form of demonstrations of meatball production using discarded chicken meat,

with the following steps:

- The activity proposal team socialized the activity plan to the community.
- The activity proposal team, together with the Department Head/Program Coordinator, selects 30 student candidates to participate in the community service activity training.
- The activity proposal team, together with the selected participants, determines the schedule for the training activity plan.
- The training conducted by the activity proposal team will be carried out regularly according to the established schedule with the knowledge of the Department Head/Assistant Dean I.

5. Before the training or practical session on making chicken meatballs from discarded chicken meat begins, an orientation session will be held on how to make meatballs using discarded chicken meat as the main ingredient.

The steps involved in making meatballs using chicken meat as the main ingredient are as follows. Preparation of ingredients, where the tools used are: the meat used in making these meatballs is sourced from layer chicken farms in Kendari City. The chickens are female and around 24 months old, and are culled because they are no longer productive in terms of egg production. The meat used is from the breast and thigh. All meat samples are in a fresh state (pre-rigor phase). The flour used in meatball production is a combination of tapioca flour, rice flour, cornstarch, and sago flour, each used in quantities of 10-15% of the meat weight. To achieve the typical flavor of meatballs, flavor enhancers were added.

The equipment used for dough preparation included commercial meat grinders (blenders) and dough-making tools (copper). Kitchen/cooking equipment used includes knives, spoons/forks, plates, glasses, pots, and stoves. Tools used for organoleptic testing include questionnaire forms, writing utensils, and tissue paper.

The meatball production process is carried out as follows: Chicken meat and brains are ground and blended using a food processor, with half the amount of ice cubes added. Skim milk, garlic, pepper, sugar, salt, and nutmeg are mixed into the dough, along with the remaining half portion of ice cubes. All-purpose flour is added last and ground until the dough is evenly mixed. The dough is placed in the freezer for 15 minutes, shaped into flowers, hearts, and stars with the same dough weight, then steamed at 60°C for 12 minutes.

The boiled dough (half-cooked meatballs) is cooled at room temperature for 15 minutes. Next, the dough is coated with a batter made from raw egg whites that have been beaten, then coated with bread flour. The meatballs are placed in the freezer for 24 hours, then fried at a temperature of 60°C. The frying time required until the meatballs are cooked is 3 minutes.

3. Results and Discussion

The implementation of this community service activity will be monitored and evaluated by the LPPM to determine the indicators or level of success of the activity and to jointly find solutions if obstacles are encountered [5]. The evaluation of the activity will be carried out by the Unhalu community service team for the training participants, consisting of community majoring in animal husbandry at Fapet Unhalu, together with the activity implementation team.

Evaluation of non-physical activities involves assessing the level of understanding, participation in each activity, discussions, and follow-up plans from the participants. At the end of the activity, a questionnaire will be distributed to each participant. Solutions will also be sought for any challenges participants may face in applying the results of the training activity. Physical activity evaluation involves directly observing the activity packages implemented based on the achievement of targets according to the scheduled timeline, the number of active participants, participants' level of understanding, and acceptance of the meatball products produced.

Evaluation results will be reported periodically through activity progress reports, target achievement levels, and final activity reports, as well as potential publications. The final report will be accompanied by photos of the activity implementation. Monitoring activities will continue even after the project is completed and will be incorporated into the entrepreneurship mentoring group for community by the Community Service Institution of Halu Oleo University

The training activity took the form of technical guidance through training in meatball production using

chicken offal as the main ingredient, aimed at optimizing community' mastery of appropriate technology, particularly meat processing technology, for community in the Animal Science Department at Unhalu. This initiative is expected to foster entrepreneurial spirit (entrepreneurship) and create innovative job opportunities for both community and alumni in the future. The training/technical guidance activities were conducted at the Animal Science Department by a team from the Animal Science Department of the Faculty of Agriculture at Haluoleo University.

The materials presented included: a presentation on the prospects of processed meat-based food businesses, particularly meatballs; an introduction to the ingredients and equipment needed for meatball processing; knowledge about meat and its quality; and an overview of spices, ingredient composition, and meatball-making techniques. These materials received a positive and satisfactory response from the participating community, as such activities are rarely conducted. However, as future intellectuals, community greatly need practical skills that can be utilized as tools to start entrepreneurial ventures. Generally, community were very enthusiastic about the practical meatball-making session and were highly interested in applying the knowledge in their daily lives [6].

The meatball recipe used as the practical/demonstration material for the training participants is as follows:

Table 1. Formulation of chicken meatball ingredients.

No	Ingredients	Percentage Composition (by meat weight)
1.	Boneless chicken meat	100
2.	Tapioca flour	20
3.	Bawang putih	3
4.	Garam	2
5.	Lada bubuk	1
6.	Es	20

Sumber: [7]

The question and answer session between the implementation team and the target audience, which generally consists of community, took place after the briefing and demonstration. The lecture material, which focuses on optimizing the entrepreneurial potential of community in the Animal Science Department at Unhalu, particularly in the development of entrepreneurship, market prospects, and opportunities, was highly engaging and sparked enthusiasm among the participants. Additionally, they were very interested in attending the lecture and demonstration on the process of making chicken meatballs, which is often the most common challenge they face in the production process.

Figure 1. Demonstration of chicken meatball making.

The educational session and demonstration on making meatballs using chicken offal as the main ingredient received serious attention from the participants, as evidenced by 100% attendance. Generally, they wanted to verify the training materials that had been presented to them. The participants were very active in asking questions during the meatball-making process because they greatly enjoyed the tasty and flavorful meatballs they had tasted [8].

Figure 2. Demonstration and organoleptic tasting of meatballs made by participants.

The initial stage of the demonstration involved teaching participants about the use of relatively inexpensive chicken meat as the main ingredient for meatball production, introducing ingredients and spices, the grinding and mixing process, dough formation, and meatball shaping. Technical aspects supporting successful meatball production, such as the use of ice cubes, boiling water temperature, and others, were also covered [9].

It is hoped that this activity will increase the interest of Animal Science community in pursuing meatball production entrepreneurship using discarded chicken meat as the main ingredient, and that this initiative can be emulated by other communities in the surrounding area [10]. By providing better knowledge and skills in meatball production, this will ultimately impact the income of those engaged in this activity, particularly in Kendari City. Participants' responses to the training activity were reflected in various questions about the material and the prospects of the meatball-making business being taught.

3.1. Supporting factors

Several factors that support and drive the implementation of this community service activity are as follows.The response of the participants, who are community majoring in Animal Husbandry, to the material presented by the Animal Husbandry Department Team during the technical guidance activity was very enthusiastic and positive.The marketing aspect of livestock products, specifically meatballs, produced by the local community is highly popular and well-supported, thanks to the proximity of the market, smooth transportation infrastructure, and the high demand for meatball cuisine. In general, the people of Kendari City are very fond of eating meatballs, regardless of age. This strongly supports the development of meatball production businesses for student entrepreneurs.

3.2. Obstacles

In the implementation of this community service activity, there are still several obstacles, which are generally.The low level of knowledge and skills among the community, including community, regarding how to select ingredients and follow proper production processes (good manufacturing practices). The lack or limited availability of business capital is an obstacle to developing community' interest in entrepreneurship in the production of meatballs made from discarded chicken.

4. Conclusions

The participants expressed a desire to turn meatball production into an entrepreneurial activity, as meatballs are one of the most popular types of cuisine among the community. This entrepreneurial spirit is expected to empower their potential, serving as a foundation to enhance their income and well-being in the future. This can also prevent unemployment and its potential social impacts.

The production of meatballs using chicken meat from retired laying hens as the main ingredient is an effort to add value to a product that is less popular and of low value. This has a positive impact on community in utilizing raw materials in their businesses, yielding optimal results with high nutritional value

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