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Training on Making Crackers From Manalagi Mango Pulp as Healthy Snacks for Students of SMA Muhammadiyah Kedawung.

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ABSTRAK

This community service activity aims to process Manalagi mango flesh into healthy and economically valuable snacks, which are one of the local wisdom fruits typical of Cirebon. This community service activity begins with observation, socialization, training, and evaluation so that SMA Muhammadiyah Kedawung students can understand how to process mango flesh, which is abundant and valuable in the school garden. The results of this community service are crackers that have the distinctive taste and aroma of Manalagi mango and have nutrition and economic value. This activity can also invite SMA Muhammadiyah Kedawung students to be more creative and innovative in processing local wisdom fruits, which are abundant in the school garden, into healthy snacks.

Kegiatan pengabdian ini bertujuan untuk mengolah daging buah mangga Manalagi menjadi cemilan sehat dan bernilai ekonomi yang merupakan salah satu buah kearifan lokal khas Cirebon. Kegiatan pengabdian ini dimulai dari observasi, sosialisasi, dan pelatihan serta evaluasi agar siswa SMA Muhammadiyah Kedawung dapat memahami cara mengolah daging buah mangga yang produksinya berlimpah di kebun sekolah menjadi bermanfaat bagi sekolah. Hasil pengabdian ini berupa kerupuk yang memiliki cita rasa dan aroma mangga Manalagi yang khas dan memiliki nutrisi dan bernilai ekonomi. Kegiatan ini juga dapat mengajak siswa SMA Muhammadiyah Kedawung untuk lebih kreatif dan inovatif dalam mengolah buah kearifan lokal yang jumlahnya berlimpah di kebun sekolah menjadi cemilan sehat.

A. INTRODUCTION

Mango (Mangifera indica L.) is one of the most popular fruits in tropical and subtropical countries. The mango fruit consists of skin, pulp, and seed. Mango skin contributes 15 - 20% of the fruit weight. Mango seeds of different varieties weigh an average of 9% - 23% of the fruit weight (Palaniswamy et al., 1974). Inside the mango seed is a kernel measuring 4 - 7 cm long, 3 - 4 cm wide, and 1 cm thick. The kernel content in mango seeds ranges from 45.7% -

72.8%, according to Gusman, et al. (2019). Herbs have an important role in the history of medicine and human health. Herbal products are increasingly important as a more natural and environmentally friendly alternative to a healthy lifestyle (Gusman, et al., 2023). Children rarely like herbs; they prefer sweet and fresh foods such as mangoes, which are synonymous with sweetness and are converted into savory snacks. Mango is one of the most popular tropical fruits and is much sought after in domestic and international markets. In Indonesia, various mangoes exist, such as Arum manis mango, Apple mango, Golek mango, and others (Hendriyan et al., 2023). Manalagi mango has a high nutritional content and tastes sweet and slightly sour, becoming one of the plantation fruit commodities that are very much in demand among the public. The characteristic of the Manalagi mango is that it is a round or slightly elongated fruit shape with smooth and thin skin. This fruit tends to be larger than the mango and has a diameter of about 10-15 cm. The fruit's skin is yellow when ripe, and there is yellow honey in the middle of the fruit. However, despite its great potential, Manalagi mango is often not optimally utilized to become a nutritious and valuable snack.

Mango (Manifera indicaL) is a fruit that contains a lot of carbohydrates, minerals, fiber, vitamins, and polyphenols. Mango fruit is one of the climatic fruits that usually ripen after harvesting. Mango (Mangifera indica L.) is one of the most popular tropical fruits in the world. Its sweet taste makes it so favored by the world community (Fajar Ramadhan, 2024). The chemical content of mango fruit is water and protein carbohydrates, fat, Vitamin A, Vitamin B1, Vitamin B2, Vitamin C, minerals, tannins, and dyes. Mangoes have perishable properties and short shelf life; therefore, it is necessary to make an alternative to make a helpful food processing innovation (Deny Utomo, 2024).

Cirebon Regency is one of the largest mango-producing districts in West Java Province; the 2017 mango production in Cirebon Regency reached 384,173 quintals (BPS Cirebon Regency, 2018). Of the total mangoes produced by Cirebon Regency, about 10% are in the grade C category and do not meet the demands of the modern market. This condition is to Rustiana's research (2008), which states that in Cirebon Regency, in each mango harvest season, there is an average of 10% of the total harvest of grade C mangoes that are not sold and finally discarded due to the short shelf life of mango fruit (Farida Mardhatilla, 2021).

Therefore, a service activity was carried out at the school to increase the selling value of Manalagi mango fruit. This training aims to increase the knowledge and skills of Muhammadiyah Kedawung High School students in making processed Manalagi mangoes fruit meat products that are more nutritious and have high selling value. Saputri (2023) also highlighted the importance of processing mangoes into more nutritious and hygienic products to increase the potential of Manalagi mangoes at SMA Muhammadiyah Kedawung. However, much of the process of turning Manalagi mangoes into healthy and nutritious snacks has not been done.

To overcome this problem, training on making nutritious food products from Manalagi mango fruit into crackers is proposed. Along with the rapid development of the times, both in the fields of technology, information, and science and technology (Gusman, et al., 2022), The development of science in the food sector allows producers to use safe and natural ingredients such as mango fruit. So Muhammadiyah Kedawung High School students have the knowledge and skills to make nutritious mango cracker processed products that have high selling value. In addition, this training aims to preserve local wisdom in mango fruit processing, especially mango Manalagi fruit.

In the context of education, this activity is expected to be an integrative learning model, combining academic knowledge with practical skills that are useful for everyday life. Thus,

students acquire theoretical knowledge and applicable skills, which they can use in their future lives (Amin, 2021). Training activities at school to train students' skills in developing plantation products through making mango crackers from Manalagi mango flesh, besides that, empowering mango farming communities Manalagi Kedawung and surrounding areas in processing mango waste into food and can improve students' skills and innovation in processing Manalagi mango-based products (Gusman, 2022).

B. METHODS

This community service activity is aimed at providing knowledge and skills (suhardi, 2019). for residents of SMA Muhammadiyah Kedawung in Cirebon Regency. The method of making Manalagi mango crackers involves several stages. In the initial stage, observations were made to identify existing resources at SMA Muhammadiyah Kedawung that have not been utilized properly. Next, socialization was held to raise the spirit of the students of SMA Muhammadiyah Kedawung, stating that their school has natural resources that can be optimized to become a new source of income for them. Then, the practice of processing, mentoring, and marketing Manalagi mango cracker products. In general, the whole stage is divided into two, namely planning and implementation. In the planning stage, the school and I socialized that Manalagi mangoes can be processed into nutritious food products with a high selling value. Then, in the implementation stage, we practiced the processing, packaging, and marketing of Manalagi mango crackers (Agus Salim., 2023).

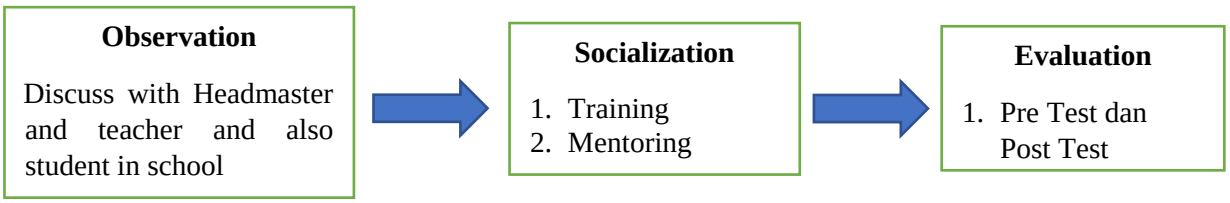

Figure 1. Flow of Community Service Activities

C. RESULT AND DISCUSS

Based on the problems found, students and the school decided to maximize the utilization of Manalagi mangoes by making them the essential ingredients of processed foods that are nutritious and have a high selling value. Manalagi mangoes processed into crackers are expected to increase the potential of Manalagi mangoes in SMA Muhammadiyah Kedawung by utilizing the harvest of Manalagi mangoes, which is one of the tropical fruits that can be utilized into various kinds of processed food products that are nutritious and have selling value, as well as high nutritional content that can facilitate the digestive system.

Students analyzed the assets and strengths owned by SMA Muhammadiyah Kedawung, one of which is mango. This school has many mango trees, but this asset has not been utilized optimally. So far, the mango harvest has only been used as a staple ingredient for fruit salad, sometimes only eaten directly without any other innovations, and even the mango harvest is sold directly. To optimize agricultural products, there must be an initial effort by making several breakthroughs so that the products produced have a higher selling value, one of which is by educating to utilize the abundant harvest so that it is not sold in raw conditions but rather into more creative and innovative products so that it can be a means to advance the economy.

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Figure 2. Manalagi Mango Fruit Observation With the Principal of SMA Muhammadiyah Kedawung

After further analysis, it turns out that the knowledge of processing Manalagi mangoes into food products is still very limited. Most students at SMA Muhammadiyah Kedawung do not know how to process mangoes into nutritious snacks that have selling value (Yusuf, 2023). Seeing the excellent potential of SMA Muhammadiyah Kedawung, especially mangoes, which were still underutilized into more economically valuable preparations before being sold, we PMDS students made a breakthrough at SMA Muhammadiyah Kedawung. This breakthrough is in the form of Manalagi mango crackers with a simple composition. The tools and materials used to make Manalagi mango crackers include:

No	Material	No	tools
1	Manalagi Mango Fruit	1	Basin
2	Tapioka Flour	2	Knife
3	Flavouring	3	Blender
4	Pepper	4	Wok
5	Red Onion	5	Stove
6	White Onion	6	Stirrer
7	Salt	7	Spoon
9	Cooking oil	8	Tray

Manalagi mango crackers can be processed into various flavors with simple essential ingredients and easy and affordable manufacturing steps. Here are the steps for processing Manalagi mango crackers:

Figure 3. Mango fruit peeling process

1. Choose Manalagi mangoes that are ripe and of good quality. Then peel and clean. The mango fruit is washed thoroughly and then aerated until the washing water that sticks to it becomes dry, then the skin is peeled (Mas'ud, 2023) After the cleaning process,

separate the flesh of the Manalagi mango fruit from the seeds, then blend the flesh of the Manalagi mango fruit until smooth and soft in texture.

Figure 4. Materials Mixing Process

2. Mix all ingredients in one large container. Then add enough hot water. Add spices such as pepper, salt, shallots and garlic. Then stir until smooth.

Figure 5. Dough Making Process

3. After the dough is well mixed, shape the dough lengthwise then boil until it floats. After that, remove and put in the refrigerator to harden for 24 hours.

Figure 6. Drying Process of Crackers

4. Cut the dough into thin slices and dry them in the sun for (approximately) 2 days.

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Figure 7. Cracker Frying Process

5. Once dry like this, heat oil and fry the dough using low heat until browned. When browned, remove the Manalagi mango crackers and drain.

Based on the training that has been carried out, an evaluation is carried out to determine the student's level of understanding of processing Manalagi mango fruit flesh into nutritious, healthy snacks. Figure 8. explains the graph related to the level of understanding of processing Manalagi mango fruit flesh into crackers.

Figure 8. Based on the training that has been carried out, an evaluation is carried out to determine the student's level of understanding of processing Manalagi mango fruit flesh into nutritious, healthy snacks. Figure 8. explains the graph related to the level of understanding of processing Manalagi mango fruit flesh into crackers.

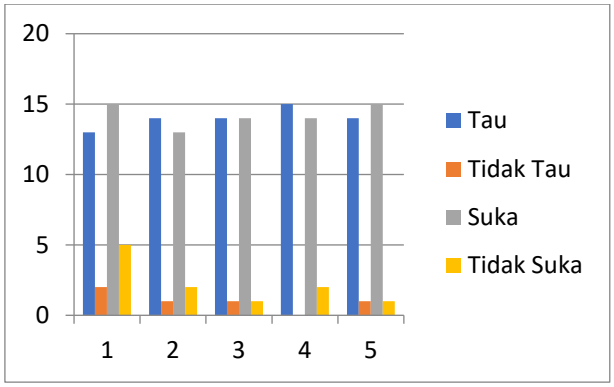

Figure 8. Graph of the survey results of mango crackers in the community SMA Muhammadiyah Kedawung

From this data, it can be concluded that there is an increase in understanding of processing Manalagi mango fruit pulp into crackers; this can be seen in Figure 8. which explains the satisfaction and increase in students' knowledge and abilities in processing Manalagi mango fruit pulp into crackers. This healthy snack is an alternative nutritious snack with a healthy nutritional content for schools, especially students and teachers at SMA Muhammadiyah Kedawung, as this is one of the community service activities that the school and the lecturer students favor.

D. CONCLUSION

Based on the results of the training on processing mango pulp into nutritious cracker snacks, it can increase the knowledge of SMA Muhammadiyah Kedawung students about processing Manalagi mango pulp into healthy and nutritious crackers so as to increase

competence or expertise in processing plantation products into innovative product processing typical of local wisdom at SMA Muhammadiyah Kedawung.

E. ACKNOWLEDGEMENTS

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F. AUTHOR CONTRIBUTIONS

In the implementation of its activities, the training steering team: Tania Avianda Gusman, Arif Nurudin, Activity Implementation: Sodikin, Putri Ramadhani, Article Preparation: Sodikin, Putri Ramadhani, Sri Maolida Uswatun Hasanah, Impact Analysis: Tania Avianda Gusman, Putri Ramadhani, Presentation of results: Arif Nurudin, Sodikin; Article Revision: Sodikin, Arif Nurudin, Sri Maolida Uswatun Hasanah.

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