IMPROVEMENT OF KNOWLEDGE AND INNOVATION IN THE LIMAU MANIS SEJAHTERA OYSTER MUSHROOM CULTIVATION GROUP THROUGH A BENCHMARKING IN SUNGAI SARIK, PADANG PARIAMAN

Wellyalina1*, Risa Meutia Fiana2, PK Dewi Hayati3, Shalati Febjislami3, Dian Pramana Putra4

1Department of Food Technology and Agricultural Products, Faculty of Agricultural Technology, Andalas University, 2Department of Agricultural Industrial Technology, Faculty of Agricultural Technology, Andalas University, 3Department of Agroecotechnology, Faculty of Agriculture, Andalas University, 4Department of Agricultural Product Technology, Faculty of Agriculture, Ekasakti University

Abstract

The Limau Manis Farmers Group is a farmer group located in Limau Manis Village, Pauh Subdistrict, Padang City. This farmer group has been engaged in the cultivation of white oyster mushrooms, and its development has been quite successful. Productive economic development can create a sustainable economy and provide a business opportunity that is ready to compete, thus becoming a source of income for farmers. Especially during the COVID-19 pandemic, when many people lost their jobs, making economic needs even more challenging. The oyster mushroom production efforts of this farmer group are capable of producing a considerable amount of oyster mushrooms. However, there are some obstacles and challenges to producing even more oyster mushrooms. This is due to several factors such as (1) the short shelf life of fresh oyster mushrooms; (2) limited knowledge in processing oyster mushroom harvests; (3) funding issues to support oyster mushroom processing activities; (4) the group's limited knowledge of labeling and packaging; and (5) the group's limitations in managing digital marketing. The most common challenge faced is the frequent delay in spawn availability. Furthermore, the high cost of spawn can also reduce the income of the LMS group. Through benchmarking or visits to advanced oyster mushroom cultivation groups such as the De Jamur group in Sungai Sarik, Padang Pariaman, new knowledge can be acquired, and innovations can be found for the LMS group, resulting in improved mushroom productivity in that group compared to before.

INTRODUCTION

Limau Manis Village is one of the villages located in the Pauh subdistrict of Padang City. The existing topographic conditions have an impact on the socio-economic life of the community and the availability of land. Land use in Limau Manis Village is dominated by agricultural areas (rice fields, fields). In Limau Manis Village, there is a farmers' group cultivating oyster mushrooms (Harlina, K D., et al. 2021). The target as a program implementation partner is the Prosperous Oyster Mushroom Cultivation Group of Limau Manis. The Prosperous Oyster Mushroom Cultivation Group of Limau
Manis (LMS) consists of 10 group members.

Oyster mushroom (Pleurotus ostreatus) or white mushroom is also known as shimeji mushroom (Japan). Among members of the pleurotus, this fungus is known as the oyster mushroom. The whole is white because the spores are colorless. The diameter of the adult mushroom cap is between 3 to 8 cm. The surface of the hood is slippery and slightly oily. In humid conditions the edges are wavy. Of the several types of oyster mushrooms, white oyster mushrooms are the most widely and popularly cultivated in Indonesia and are the most widely sold in the market (Fiana, 2021)

Oyster mushroom cultivation can be carried out by farmer groups because the technology used is appropriate. Oyster mushroom cultivation can make use of equipment that is already very familiar to the community and easy to obtain. Another advantage of oyster mushroom cultivation is that it doesn't require a large amount of land, and there aren't many pest and disease issues with oyster mushrooms. Oyster mushrooms have a very broad market (Fiana et al., 2023). Oyster mushroom consumers are not only from the middle-income class; even upper-class individuals enjoy oyster mushrooms, and many hotels offer oyster mushroom dishes on their menus. The business opportunities for oyster mushrooms will continue to grow over time, given the various advantages of oyster mushrooms and the positive trends in the market. The use of white oyster mushrooms (Pleurotus ostreatus) as the main ingredient is due to its low cost and relatively high protein content. This aligns with the opinion of Annisa (2017), who stated that oyster mushrooms are one of the plant-based protein sources with a diverse range of essential amino acids. Lysine is an amino acid essential with the highest content (Siregar et al., 2020).

The issues encountered in the oyster mushroom cultivation group are lower yields compared to market demand. Based on observations and discussions with members of the LMS group, a picture of the problems they are currently facing was obtained. These issues include the availability of F0 and F1 spawn, frequent failures in baglog production, slow and uneven mycelium growth, difficulty in achieving target mushroom production, and the production of processed oyster mushroom products with a long shelf life.

To address partner issues, the preliminary activity conducted by the team was to observe the LMS group and identify urgent problems that needed to be addressed as well as solutions to these problems. The team's assessment of the issues revealed that the partner was not yet self-sufficient in providing F0 and F1 spawn, which are the core of oyster mushroom cultivation. Oyster mushroom spawn has been sourced from cultivation groups in Padang Panjang so far. The challenge faced is the frequent delay in spawn availability. Additionally, the high cost of spawn can also reduce the income of the LMS group. Through comparative studies or visits to advanced oyster mushroom cultivation groups such as the De Jamur group in Sungai Sarik, Padang Pariaman, new knowledge can be gained, and innovations can be found for the LMS group, which will improve the productivity of mushrooms in that group compared to before. One example of innovation found in the De Jamur group is that baglog costs can be reduced by nearly half, less than Rp 1,000 per baglog. Sterilization processes can also be faster. Equipment that can be adopted to increase efficiency includes a modified Laminar Air Flow (LAF) and other innovations such as using used oil as fuel.
ACTIVITY METHODOLOGY
1. The method used is a comparative study. The visit was carried out by the service team and members of the LMS group. The purpose of this visit was to enhance up-to-date knowledge and create innovations through field visits to the De Jamur group in Sungai Sarik, Padang Pariaman.
2. The implementation is carried out through visits, education, and the exchange of ideas between the LMS group and De Jamur. Additionally, the LMS group can also directly observe the oyster mushroom cultivation and oyster mushroom processing methods at the De Jamur group, allowing them to make comparisons with their own practices.

ACTIVITY RESULTS
The implementation was carried out in Sungai Sarik, Padang Pariaman, at the De Jamur Oyster Mushroom Cultivation Group in mid-October 2021. Through comparative studies or visits to advanced oyster mushroom cultivation groups such as the De Jamur group in Sungai Sarik, Padang Pariaman, new knowledge can be gained, and innovations can be found for the LMS group, improving the productivity of mushrooms in that group compared to before. The results of the visit can be summarized as follows: Knowledge about proper oyster mushroom cultivation spawn, sharing experiences on oyster mushroom cultivation productivity, modification of LAF (Laminar Air Flow) equipment with a capacity that is no less than the LAF in the laboratory, modification of sterilization equipment so that its capacity can accommodate more, the use of used oil waste as fuel, and Oyster mushroom products like Crispy Mushrooms.

Figure 1. Benchmarking to the Oyster Mushroom Cultivation Group (De Jamur) in Sungai Sarik, Padang Pariaman

In this benchmarking, we not only gained an understanding of oyster mushroom cultivation techniques but also learned about the role and impact of oyster mushroom cultivation on the local economy. Here, it is evident how important the collaboration between farmers and the surrounding community groups is in developing this cultivation effort. Beyond the technical aspects, the Limau Manis farmers' group also had the opportunity to engage in direct discussions with oyster mushroom cultivation groups in Sungai Sarik, Padang Pariaman. They listened to stories about the challenges these groups face in managing cultivation and the strategies they employ to market their harvests. This visit provided invaluable practical insights into the realm of agriculture and economic sustainability.
Oyster mushroom (Pleurotus ostreatus) is one of the edible mushrooms because it has a relatively high content of nutrients, delicious taste, easy cultivation, and is relatively cheap, and easily available in the market. The specialty is that oyster mushrooms contain beta-glucans and have antioxidant activity. Beta-glucans can act as immunomodulators, by stimulating the body's defense system by activating macrophages to capture and destroy foreign substances in the body such as viruses, bacteria, fungi, and parasites. Oyster mushrooms are processed food as an alternative to nutrition because it contains fiber, protein/amino acids, carbohydrates, minerals, fats, and beta-glucan (Widyastuti, 2019). Processed foods as well as oyster mushrooms can be an alternative source of income because it can increase the value added. For example dumplings, and crispy oyster mushrooms (Fiana, 2021).

CONCLUSION

The results is the Limau Manis Sejahtera Oyster Mushroom Cultivation Group has enriched their knowledge and created innovations, thus increasing the productivity of oyster mushrooms. In addition, the LMS group can also relax through study trips, which is expected to inspire them to work with more enthusiasm to create the latest innovations.

REFERENCES


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