

UTILIZATION OF OYSTER MUSHROOM BAGLOG WASTE AS ORGANIC COMPOST IN THE PROSPEROUS LIME OYSTER MUSHROOM CULTIVATION GROUP, LIMAU MANIS VILLAGE, PAUH DISTRICT

Risa Meutia Fiana, Deivy Andika Permata* and Alfi Asben

Department of Agricultural Industrial Technology, Andalas University

Corresponding author: deivyandhikapermata@ae.unand.ac.id

ABSTRACT

The LMS oyster mushroom cultivation group consists of 31 people. Each member has a kumbung with a capacity of 2000-4000 baglog. The problems that arise from the cultivation of oyster mushrooms are: Oyster mushroom baglog waste that is no longer productive is wasted and becomes environmental pollution. Besides polluting the environment, it can also be a polluter for baglogs that are still productive. One effort that can be done is to process it into compost. Unproductive baglog processing can increase added value. Utilization of compost can be applied to vegetable crops and ornamental plants. Processing compost from baglog that is not productive is also beneficial in preserving the environment.

Keywords: Waste, Oyster Mushroom, Baglog, compost

INTRODUCTION

Limau Manis Village is one of the villages in Pauh District, Padang City. The existing topographical conditions affect 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 the Limau manis village, there is a farmer group that cultivates oyster mushrooms called the Prosperous Lime Oyster Mushroom Cultivation Group (LMS) (Harlina, K D., et al. 2021).

Oyster mushroom which in its botanical classification is named pleurotus, which we know so far is white oyster mushroom. 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 (Meutia, R F., 2021)

The LMS oyster mushroom cultivation group consists of 31 people. Each member has a kumbung with a capacity of 2000-4000 baglog. This group not only sells oyster mushrooms but also sells baglog of oyster mushrooms that have been sown with mushroom seeds with mycelium growth of 30% to 65%. The large amount of baglog and mushroom production is accompanied by the amount of baglog waste. Mushroom

baglog waste is a growing medium for oyster mushrooms that have exhausted their harvesting period, the resulting waste is in the form of old baglogs and contaminant baglogs. With the abundant amount of waste without any treatment efforts from the cultivator group, it results in air and soil pollution around the waste disposal. (Hunaepi, et al., 2018).



Fig 1. Oyster mushroom Baglog waste scattered in the yard of one of the LMS group members

Utilization of oyster mushroom baglog waste has the advantage that it can reduce environmental pollution. Oyster mushroom baglog waste in addition to having an impact on environmental health also has an impact on mushroom cultivation itself because wild mushrooms that often grow in baglog waste mounds act as a source of contaminants causing the failure of oyster mushroom cultivation, these mushrooms produce billions of spores, if carried by the wind or through clothing. and the worker's limbs will spread to all corners of the room, including the fungal inocula (Hanum, F., et al, 2019).

The solution to the problem of baglog waste is to process baglog into compost. Processing baglog waste into compost using easily available tools and materials such as rice bran, cow dung, husk ash and EM4. The compost produced can increase the value of the mushroom baglog. The compost can be sold by the LMS group or used alone by the group.

METHODOLOGY

The Community Service Program by transferring technology to the Sejahtera Sweet Lime Oyster Mushroom cultivation group uses the following stages:

1. The first stage: Initial Counseling on the importance of treating oyster mushroom baglog waste

Counseling on the Utilization of Oyster Mushroom Baglog Waste has the advantage that it can reduce environmental pollution. Oyster mushroom baglog waste in addition to having an impact on environmental health also has an impact on mushroom cultivation itself because wild mushrooms that often grow in baglog waste mounds act as a source of contaminants causing the failure of oyster mushroom cultivation, these mushrooms produce billions of spores, if carried by the wind or through clothing. and the workers' body parts will spread to all corners of the room, including the fungal inoculation room.

2. Second stage: Training on Techniques for Processing Oyster Mushroom Baglog waste into compost

This training will be taught directly to the durian processing training participants through a demonstration process and direct practice by the participants. Then for the packaging process, equipment assistance is provided followed by the practice of processing oyster mushroom baglog waste into organic fertilizer and oyster mushroom stems into ecoenzyme using the tools and materials provided.

3. Third stage: Mentoring

Obstacles in the process of making organic fertilizers and ecoenzymes from oyster mushroom cultivation waste will certainly be encountered in the field. Therefore, after the counseling and training process was carried out, for the following days guidance was given to participants if there were problems, so that participants were able to produce organic fertilizers and ecoenzymes from oyster mushroom cultivation waste.

RESULTS AND DISCUSSION

The counseling carried out is one of the processes of educating the LMS group so that they are able to change behavior, open insight to solve problems that exist around the group. The problem that exists in the LMS group is the handling of baglog waste which is no longer productive. Baglogs that are not productive are left around the kumbung.

Initial counseling about the importance of baglog processing is an important stage. This initial counseling aims to open the insight of LMS group members on the importance of reducing baglog waste that is no longer productive which can contaminate oyster mushroom baglog which is still productive. This counseling also introduces tools, materials and working methods in making compost from used baglog waste. The lack of utilization of unproductive oyster mushroom baglog waste will have a negative effect on the environment, namely the amount of heap of this media waste becomes pollution, smells bad.

The counseling materials provided included the potential of old baglog as organic fertilizer, the benefits of organic fertilizer, the composting process, factors that influence composting, stages of composting, compost quality, packaging and marketing of compost. The extension method used is lecture, discussion, question and answer and demonstration. In the process of delivering material, the extension team uses LCD media



Fig 2. Counseling on the Importance of Baglog Processing

Oyster mushroom baglog waste is used as compost by adding EM4 and other organic materials, it can be used as plant fertilizer with economic value. Oyster mushroom baglog waste management is to protect the environment so as not to have an impact on health, and mushroom cultivation itself because it can be contaminated by wild mushrooms that often grow in the oyster mushroom baglog waste mound. The mushroom media waste produced is basically organic compost that has undergone a decomposition process so that this waste treatment does not take long to be converted into ready-to-use organic fertilizer (Hunaepi., et al, 2018.)Optimal results in this activity will be obtained if LMS members are able to process unproductive baglog waste into organic fertilizer. The practice of making organic fertilizer from baglog waste is one of the efforts to improve the skills of LMS members.



Figure 3. Practice of Making Compost Fertilizer from Baglog Oyster Mushroom Waste

The target of this activity is that the LMS group is able to process baglog waste that is no longer productive into compost. The achievement of these targets is supported by conducting practice. Figure 3 shows the enthusiasm of the LMS group in carrying out the practice of making compost. The practical activities aim to improve the skills of LMS members in making compost and gain real experience in processing compost.

IMPLEMENTATION RESPONSE

The PKM activities carried out in the Limau Manis Sejahtera oyster mushroom cultivation group were the first activities carried out. It is evident from the active participation of participants in participating in all series of activities that have been designed. In addition to their activity, they also showed a very satisfied response after receiving training and mentoring. Monitoring the progress of the mushroom baglog waste treatment periodically continues to be carried out by the team to see the quality of the products produced. The results of this activity have been able to provide opportunities and provide added value for members, both in terms of knowledge and skills, as well as in terms of improving the group's economy. This is expressed through the confession of the group leader and its members. Therefore,

MONITORING AND EVALUATION

Monitoring and evaluation is carried out by the Community Service Team in consultation through social media such as whatsapp groups. This monitoring and evaluation activity is carried out by: holding discussions with farmer groups, regarding the problems encountered after the mentoring activity, so that problem solving is sought. Communication formed in monitoring activities through mobile communication media.

CONCLUSION

Oyster mushroom baglog waste processing activities that are no longer productive into compost can increase the added value. Utilization of compost fertilizer can be used on plants so that it has economic value. Another benefit of making compost from unproductive baglogs is to protect the environment so it doesn't have an impact on health, and mushroom cultivation itself because it can be contaminated by wild mushrooms that often grow in the oyster mushroom baglog waste mound.

REFERENCES

- Hanum, Farida., Ni Nyoman Suryani., Nurianto. 2019. *Pengelolaan Dan Pemanfaatan Limbah Baglog Jamur Tiram Di Ukm Oemah Ong Desa Mancingan Tampaksiring Gianyar Bali*. Prosiding SENADIMAS Ke-4, Tahun 2019, ISBN 987-623-7482-00-0.
- Harlina, Kurnia Dewi., Risa Meutia Fiana., Vioni Derosya., Deivy Andhika Permata., Hasbullah., dan Rahmi Awalina. 2021. *Improving The Knowledge And Skills Of The Members Of The Limau Manih Mushroom Farmer Group About Diversification Of Processed Oyster Mushroom Products*. Andalasian International Journal of Social and Entrepreneurial Development. Volume 01 Nomor 01 (2021).
- Hunaepi., Taufik Samsuri., Irwan Doddy Dhamawibawa. 2018. *Pemanfaatan Limbah Media Jamur Sebagai Sebagai Pupuk Organik (Ibm Kelompok Tani)*. Jurnal Ilmiah IKIP Mataram Vol. 1. No. 2 ISSN:2355-6358.
- Meutia, Risa Fiana. 2021. *Sekilas Mengenal Jamur Tiram*. LPPM Universitas Andalas ISBN 987-623-395-174-6.