**Conference Paper** 



# Socialization and Training on Making Compost Fertilizer at Al-Azhaar Islamic Vocational School Tulungagung from Organic Waste

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*Corresponding author: E-mail:	ABSTRACT
rohmatulfaizah.ih@upnjatim.ac.id	Organic waste is leftover material or rubbish that can be recycled and comes from living creatures, such as food waste, waste from living creatures, or plant waste. Research shows that organic waste can be useful as compost which can be used as plant fertilizer and soil fertilizer. This activity was carried out at the Islamic Boarding School Innovation Thematic KKN activity at Al-Azhaar Islamic Boarding School, Tulungagung. The tools and materials used in socialization and training activities are compost bags, measuring cups, latex gloves, dry leaves, vegetable waste and water. Socialization and training activities are carried out in stages, namely preparing the location as well as the tools and materials that will be used. The location used in this activity is the Al-Azhaar Islamic Vocational School field in Tulungagung. Student and female representatives came forward to practice making compost according to the example given. Question and answer session by students of Al–Azhaar Islamic Vocational School, Tulungagung. The aim of carrying out socialization and training on making compost from organic waste is so that students and students of the Islamic Vocational School Al - Azhaar Tulungagung are able to process organic waste around the school which can be used into more useful items in the form of compost fertilizer.
	Keywords: Organic waste, compost fertilizer, socialization and training

# Introduction

Nowadays, household waste is often taken for granted by the community, therefore, using leftover waste and organic waste can be converted into a useful product and can be used to improve the soil for growing plants. That way, the soil for plants will be better and will protect the environment better than using chemicals. Organic fertilizer is fertilizer derived from plant and animal remains, such as manure, green manure, and compost, both in liquid and solid form (Mayadewi, 2007). The role of organic fertilizer in the physical properties of soil includes improving soil structure, improving soil pore size so that soil water holding capacity is better and air movement (aerase) in the soil is also better, and reducing (buffering) soil temperature fluctuations (Widowati et al., 2015). Organic waste is leftover material or rubbish that can be recycled and comes from living creatures, such as food waste, waste from living creatures, or plant waste. Organic waste is obtained from production processes or activities, both activities in the household and industrial domains.

The use of organic fertilizer can improve the physical, chemical, and biological properties of soil due to excessive use of inorganic materials. Compost is an organic fertilizer that is believed to improve soil properties. Apart from being good for the soil and plants, this compost fertilizer can also be made independently by the community using materials or waste. One of them is household waste and other organic waste that is decomposed.

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Nowadays, household waste is often taken for granted by the community, therefore, using leftover waste and organic waste can be converted into a useful product and can be used to improve the soil for growing plants. That way, the soil for plants will be better, and will protect the environment better than using chemicals. According to Nurkhasanah et al. (2021) stated that dry leaves contain the element nitrogen (N) which has the potential to be used as compost fertilizer. Examples of dry leaves such as Angsana leaves. Angsana leaves (Pterocarpus indicus) have an N nutrient value of 3.36%, a P nutrient value (P2O5) of 1.18%, a K nutrient value (K2O) of 3.19% and a C/N ratio nutrient value amounting to 12.08%. However, all dry leaves can also be used as compost.

The aim of carrying out socialization and training on making compost from organic waste is so that students are able to process organic waste around the school so that it can be used into more useful items in the form of compost fertilizer.

#### **Material and Methods**

This community service activity was carried out using two methods, namely (1) socialization on making compost fertilizer from organic waste and (2) training on making compost fertilizer for students of Al-Azhaar Islamic Vocational School, Tulungagung.

The tools and materials used in socialization and training activities are compost bags, measuring cups, latex gloves, dry leaves, vegetable waste, and water. Socialization and training activities are carried out in stages a. Students prepare the location as well as the tools and materials that will be used. The location used in this activity is the field of Al-Azhaar Islamic Vocational School, Tulungagung. b. The students from Al-Azhaar Islamic Vocational School, Tulungagung, came and prepared themselves to listen to the socialization. c. Students began providing direct outreach and demonstrations about making compost from organic waste. Student and female representatives came forward to practice making compost according to the examples given by the students. d. Question and answer session by Al-Azhaar Tulungagung Islamic Vocational School students and students.

## **Results and Discussion**

The training and socialization participants were vocational school students in grades 10 - 12. This enthusiasm was proven by the many questions asked by students during the question and answer session held. This is also in accordance with the indicators of the success of the program implemented, in the form of all students and female students attending the activity, the students and female students also played an active role in the question and answer session carried out as well as the seriousness of the students and female students in making compost fertilizer in accordance with the demonstration carried out by the student. All participants who attended this socialization activity were students of Al-Azhaar Islamic Vocational School.

The first activity carried out was an outreach activity by providing material regarding compost fertilizer by students. All pupils and students pay close attention. The socialization activity began with an explanation about compost fertilizer from organic waste. Compost is an organic material (organic waste) that has undergone a weathering process due to interactions between microorganisms (putre-factive bacteria) that work in it (Bachtiar & Ahmad, 2019). Composting is usually assisted by activators such as EM4. EM4 activator is a common activator on the market resulting from a mixed culture of various beneficial microbes to speed up the fermentation process in making organic fertilizer because it contains Lactobacillus sp., a small portion of photosynthetic bacteria, Streptomyces sp., and yeast. The activator functions to decompose dead organic remains into elements that are returned to the soil (N, P, K, Ca, Mg, etc.) and the atmosphere (CH4 or CO2) as nutrients that can be reused by plants (Pandjaitan et al., 2022).

The second activity carried out was the implementation of making compost fertilizer from organic waste carried out by students of the Al-Azhaar Islamic Vocational School. Representatives of 2 people with 1 student and 1 female student demonstrated making compost fertilizer in front of other students

and female students as an example. During this activity, many students volunteered as representatives, but the limited tools and materials they had meant that only two students demonstrated directly making Compost fertilizers. Even though only two students had the opportunity to demonstrate making compost under student supervision, the other students still paid close attention and without the slightest noise.



Figure 1. Compost making instruction activities

Making compost is done by collecting and sorting waste in the form of vegetable waste and dry leaves from rocks and plastic and then cutting it into smaller pieces. Put it in a bucket or container and add EM4 (50g sugar, 2.5 liter water, 50 ml Em4) then stir until evenly mixed. After the compost has been evenly distributed, it must be closed tightly and fermented for 7 - 14 days in a compost bag.

The last activity carried out was a question and answer session. During the question and answer session, there were three questions asked by pupils and students. During the activity from start to finish, none of the participants left the socialization and training location. The atmosphere during social activities was very conducive and there was nothing to indicate that the students had high interest and enthusiasm from the training participants.



Figure 2. Implementation of compost making activities by students and students of Al-Azhaar Islamic Vocational School, Tulungagung



Figure 3. Results of organic waste compost by students and students of Islamic Vocational School–Azhaar Tulungagung

# Conclusion

The socialization and training activities for making compost from organic waste were attended by students of Al-Azhaar Islamic Vocational School Tulungagung grades 10 - 12. The response from the students and Santri to this training was very enthusiastic. We hope that with this program the people concerned can implement the knowledge we have provided in their daily lives. The hope of carrying out this activity is that this activity can be sustainable and continued by the community into the production stage so that later it can become a business opportunity that can improve the economy for both individuals and groups.

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