

IMPROVING THE QUALITY OF ANIMAL FEED THROUGH THE SOCIALIZATION OF FEED FERMENTATION AND SILAGE IN TANGGULKUNDUNG VILLAGE, BESUKI DISTRICT, TULUNGAGUNG REGENCY

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Abstract *The socialization of fermentation and silage for animal feed in Tanggulkundung Village was conducted to increase farmers' understanding and skills in processing quality feed that lasts longer. This activity aims to introduce feed preservation methods through fermentation and silage as a solution to the limitations of fresh feed during the dry season. Using local raw materials, such as elephant grass, this socialization involved hands-on demonstrations as well as training for farmers to be able to practice the technology independently. The results showed an increase in farmers' knowledge and ability to apply fermentation and silage techniques, which is expected to support the sustainability of livestock businesses in Tanggulkundung village. In addition, this technique is also expected to reduce feed costs and increase livestock productivity, thus providing economic benefits to local farmers.*

Keywords: *Socialization, Fermentation, Silage, Animal Feed.*

1. INTRODUCTION

Agriculture and animal husbandry are two promising sectors in general for rural communities in general. The two sectors interact and are sustainable with each other, because basically these sectors are included in the sustainable food sector. In the midst of the dynamics of agricultural and animal husbandry development in Tanggulkundung Village, Besuki District, Tulungagung Regency, they face significant challenges related to limited land for natural animal feed. Limited land triggers unrest among farmers, who need innovative solutions to ensure the sustainability of their animal feed. One promising solution is the use of agricultural waste and food waste as alternative animal feed. One of the appropriate feed technologies carried out in the processing of animal feed ingredients is biotechnology through fermentation (Charliany Hetharia et al., 2021).

Utilization of agricultural waste, especially corn waste, has emerged as a promising alternative to address the problem. Corn plants, which are one of the main commodities in the region, produce waste that is often not optimally utilized. Corn waste, such as stalks, leaves, and cobs, can be processed into animal feed through fermentation and silage making.

Feed fermentation and silage making are relevant and effective methods in dealing with this problem. Feed fermentation is the process of breaking down organic compounds into simpler compounds by involving microorganisms both aerobically and anaerobically. Fermentation in the process can increase the protein content in feed because of the help of microorganisms that can convert starch into protein. Fermented feed will be easier to digest and last longer without removing nutrients from the feed. (Anna Vipta Resti Mauludyani et al., 2020). Simply put, feed fermentation is a process that converts organic matter into more nutritious feed through microbial fermentation. Meanwhile, silage is the preservation of green animal feed with anaerobic fermentation so that it can be stored for a long time and is able to meet the nutritional needs of livestock during the dry season. Silage has been known for a long time and has developed in tropical countries including Indonesia. The characteristics of good silage are brownish green in color, sour aroma, non-watery texture, not thick, no visible mold and pH 3.8-4.2 (Hepirjon Silalahi et al., 2023). These two methods offer solutions to overcome livestock feed shortages, especially during the lean season when the availability of natural feed decreases drastically.

The purpose of this socialization is to introduce the people of Tanggulkundung Village to non-natural feed products in the form of fermentation and silage. By understanding and implementing these techniques, it is hoped that the community can better prepare themselves for emergency livestock feed situations and optimize the potential for processing organic waste around them. Through this socialization, it is hoped that local farmers can gain the knowledge and skills needed to manage livestock feed more efficiently and sustainably, which in turn will improve economic welfare and food security in the village.

2. IMPLEMENTATION METHOD

A. Time and Place of Activity

This socialization activity was carried out on August 8, 2024 at the Tanggulkundung Village Hall together with residents who have livestock.

B. Tools and materials

The materials used in the process of making fermented feed are corn waste as the main ingredient and EM4, rice bran and molasses as additional ingredients. The tools used in the fermentation and silage making process are shredders, plastic drums, tarpaulins and rubber as ropes.

C. Implementation Procedure

The stages carried out in this service are as follows:

1. Conducting observations or surveys to determine the condition of livestock owned by Tanggulkundung village residents.
2. From the results of the observations or surveys that have been carried out, a schedule is prepared for counseling on fermentation and how to make animal feed silage from corn waste.
3. collaborating with the local livestock service in carrying out socialization and counseling regarding the urgency of feed fermentation and animal feed emergencies.
4. implementing a socialization program for animal feed fermentation within the local community by involving village officials and local residents.
5. evaluating the implementation of the socialization program for animal feed and silage

3. RESULT AND DISCUSSION

Socialization activities carried out in the village hall with the resource person being the Head of the livestock infrastructure and business sector. This activity is aimed at residents who work as farmers or livestock breeders. Because basically, agriculture is a sector that also benefits from the feed fermentation process. This is because farmers who generally also have livestock can process waste from agriculture. Thus, livestock breeders can utilize and process agricultural waste into high-quality and long-lasting fermented livestock feed. Success in maintaining nutrient content during fermentation is very important to ensure that the silage produced can meet the nutritional needs of livestock and increase the palatability and digestibility of feed.

In addition, the community becomes more aware of the limitations of animal feed and the urgency of feed fermentation. The community also gains knowledge about feed fermentation and organic waste processing to be more functional for livestock. Thus, the socialization process becomes important because basically the socialization process is the beginning of knowledge from the realization of the fermentation process for local residents. Although in practice, the community is still hesitant about feed fermentation, but in certain conditions that result in a lack of natural feed such as grass and so on, the community is ready and does not panic in facing the situation because they already have knowledge about organic waste processing and animal feed fermentation (Sumarsono, 2021).



Figure 1. Counseling on Fermented Feed

4. CONCLUSION

Tanggulkundung Village has local potential in the agricultural and natural sectors that are still maintained and can be developed. This KKN activity can provide knowledge to

the community so that they have the motivation to maximize the existing potential. The KKN activity has been carried out well, in the form of socialization to the Tanggulkundung Village community. The local village government provides support during the implementation of KKN.

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