

Processing of Corn Weevil and Elephant Grass (*Pennisetum Purpureum*) to Improve the Quality of Cattle Feed Production

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ARTICLE INFO

Article history:

Received: 12th November 2022

Accepted: 5th February 2023

Published: 1st July 2023

Keywords:

Farmer Groups, Corn Weevils, Elephant Grass, *Pennisetum Purpureum*, Cattle Fodder.

ABSTRACT

Cows are one of the farm animals that are very popular with farmers. In the villages many people have cattle in their homes. Likewise with the Wono Asri 3 Farmer Group which also has several members who choose to become cattle breeders. Raising cattle is indeed very profitable, but farmers need to have skills and understanding in order to get these benefits. One of the things that needs to be considered in raising cows is feed. Cattle farmers have various types, including some who like to give forage feed (such as grass, weeds, and corn weevils) only, and some like to mix it with concentrate feed. Forage feed is relatively cheaper, but it requires more effort in providing it, while concentrate feed is easier to provide but the price is more expensive. This then affects the farmer's expenditure on feed preparations. Therefore, there is a need for new innovations so that farmers can provide feed at a lower price, but it is easy to provide and of course the quality of the products produced.

The activities offered from this PkM are mentoring, and training on processing Corn Weevil and elephant grass (*pennisetum purpureum*) for members of the Wono Asri 3 Farmer Group. This activity aims to equip the knowledge and skills of processing Corn Weevil and elephant grass into quality animal feed. This activity will be carried out using various appropriate implementation methods such as deliberation, brainstorming, interviews, demonstrations and practices. The planned stages of activities are coordination of teams and partners, identification of target group learning needs including farm conditions and corn weevil processing equipment needed, planning activities involving target groups, training, and mentoring.

How to cite: Listyaningrum, R. A., Rahma, R. A., Purnamasari, I., & Kusuma, F. I. (2023). Processing of Corn Weevil and Elephant Grass (*Pennisetum Purpureum*) to Improve the Quality of Cattle Feed Production. *Jurnal Pemberdayaan Masyarakat Madani (JPMM)*, 7(1), 26-33. <https://doi.org/10.21009/JPMM.007.1.03>.

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INTRODUCTION

The Farmer Group is a forum for farmers, as well as a forum for breeders. The definition of a farmer group according to the Regulation of the Minister of Agriculture Number 82 / Permentan / OT.140 / 8/2013 of 2013 is a collection of farmers / breeders / planters formed on the basis of common interests; similarity of conditions of the social, economic and resource environment; commodity similarity; and familiarity to enhance and develop member ventures. Still in the same script, the functions of the farmer group include as a learning class, a vehicle for cooperation, and also as a production unit. Pingkuk Village has a GAPOKTAN (Gabungan Kelompok Tani) consisting of three POKTAN (Kelompok Tani), one of which is the Wono Asri 3 Farmer Group. This farmer group has a total of 119 members, especially those from eight RTs, namely from RT 22 to RT 29. There are three programs focused on by this farmer group, namely agriculture, animal husbandry, and plantations. From agriculture some of the focus is on rice, beans, corn, and chili. From farms, some of them are cows, goats, and poultry (laying hens). From plantations there are oranges and sugarcane, but most of them are dominated by sugarcane.

Of the three programs that are the flagship of the Wono Asri 3 Farmer Group, there are enough opportunities and potential to increase their business. One example is in the field of animal husbandry. The livestock sector has high business potential, one of which is cattle. This high potential will be better if balanced with the provision of good knowledge and skills from the breeders. The cattle breeders in this farmer group are one type of farmer who relies on mixed feed as their daily animal feed. The compound feed in question is forage feed and concentrate feed. This mixed feeding is also considered good for fattening the weight of cows. This is like the results of research by Usman et al (2013), namely, the provision of a balance between forage and concentrates in male Aceh cows affects body weight gain, consumption, conversion, and ration efficiency. In addition, Thariq's research (2017) also showed the effect of forage and concentrates on aceh bull cattle ($P < 0.05$) on the digestibility of crude protein, crude fat and crude fiber.

Giving mixed animal feed (balance) does have advantages for livestock products, but using mixed feed also requires a number of expenses. It is known that the obstacle for these farmers is the amount of expenditure on animal feed costs which is also high so that the profit from selling these cows cannot be maximized, because it must be reduced by relatively high feed costs. This is a special concern for the management of the Farmer Group how to solve this cattle feed problem, because not all cattle farmers in the Wono Asri 3 Farmer Group have abundant funding.

Some of the problems encountered by this group in relation to cattle feed include (a) Expensive concentrate feed (economy); (b) Lack of processing skills of Corn Weevil and elephant grass into quality forage feed (production). The corn weevils that were previously stacked are only left to dry if they

want to be used as direct feed without processing. Similarly, elephant grass is simply given, so that this type of feed is not durable; (c) Lack of animal feed processing equipment available in this Farmer Group (production).

MATERIAL AND METHOD

To solve the problems faced by farmers related to feed, an innovation is needed. The innovation in question is tailored to the needs of these breeders. The solution to the problem offered includes providing:

1. Procurement of Corn Weevil chopping machine and elephant grass. This technology is necessary in order to cut the forage feed to be softer and easily digested by livestock before fermentation.
2. Assistance and training in processing corn weevils and elephant grass into quality machine-assisted cattle feed.

This activity aims to equip the community with skills related to making organic feed based on elephant grass and corn weevil, not just understanding and knowledge. The programs offered here are not only informational with socialization, but also mentoring and training carried out by facilitators in collaboration with resource persons and with the participation of target groups.

The implementation of this community service activity is carried out in three forms of activities, namely socialization, training, and mentoring. The stages of activities carried out include coordination of the implementation team and partners, identification of the learning needs of the target group, procurement of Corn Weevil processing machines and elephant grass (chopping machines), management training and machine use, mentoring, evaluation. From the series of activities, the methods that will be used include:

1. Pre-activities, namely coordination and identification, are carried out by the method of deliberation, interviews, and brainstorming.
2. In the field of animal feed production (processing corn weevil and elephant grass), the activities that will be carried out are the procurement of tools, socialization, training, and assistance. This activity is carried out by the method of demonstration and practice.
3. Evaluation is carried out on each activity, namely before, during, and after the activity is carried out.

This whole series of activities is carried out with the active participation of the target group. The implementation team acts as a facilitator who collaborates with expert speakers in their fields.

RESULT AND DISCUSSION

Based on the community service program that has been carried out, results were obtained including prioritizing the learning needs of the target community, increasing the understanding and skills of the management and members of the Wono Asri 3 Farmer Group related to animal feed processing, evaluation of the activities that have been carried out as follows.

A. The Needs of Cattle Farmers for Feed Making Skills

Animal feed is one of the most crucial things that a farmer must pay attention to. Like humans, farm animals also have their primary needs. One of the primary needs is feed. The quantity and quality of feed in the livestock business greatly affects the yield of livestock. With an adequate enough quantity, it will meet its daily feed needs, but with good quality it will meet the nutritional needs of the livestock. The growth of farm animals is also greatly influenced by the feed they consume daily. Therefore, farmers must be careful in paying attention to their animal feed needs.

As reviewed in previous chapters related to the implementation of service, of course, before starting to determine the program, first make a plan. This planning is made based on the results of the identification of needs that have been carried out. Identification of these needs is necessary to find out what are the needs of the target community (in this case the cattle breeders who are members of the farmer group). Need is a deviant condition that becomes a gap with goals or achievements and must be solved immediately (Sujarwo & Kusumawardani, 2020). The way to find out the needs of breeders is to identify needs. This identification can be done by a wide variety of techniques. The techniques used in this community service activity are observation techniques and interview techniques. The analysis model used in this identification is with an inductive model. This model is carried out by approaching the prospective targets of activities directly, and parts towards a broad and comprehensive party (Sujarwo & Kusumawardani, 2020). Using this model, the identification process is carried out by approaching the breeders of the Wono Asri 3 Farmer Group. The data from the identification results are then discussed together between the service team and the partner team. The results of the deliberations obtained agreement regarding the priority of needs. The priority of the agreed needs is the need for skills in making organic feed independently.

This skill in making organic feed is needed so that farmers can provide quality feed but can still minimize spending budgets. The results of this agreement are then followed up with the planning of a problem-solving program. The agreed program is conceptualized using the theory of andragogy, which is adapted to the participants who are adults. This concept is known as the implementation of out-of-school education. This concept is used because the implementation of activities is very much in accordance with the principles of learning that exist in out-of-school education. These principles include: partnership principle, benefit principle, readiness principle, independence principle, real experience principle, participation principle, togetherness principle, sustainability principle.

B. Improving the Skills of Breeders Training Results

Based on the results of the needs analysis using a priority scale and adjusting the principles of service to the principles of adult learning, it was agreed that the solution to solving this cattle feed problem was with socialization, training, and mentoring activities. This activity is carried out continuously. The first activity carried out is socialization, this is used to equalize the perceptions of residents who are targeted for service. The next activity is training, which is the process of understanding the material and mastering skills by the method of demonstration and direct practice. The next activity is mentoring, this activity is intended to provide direction to the target residents in practicing the results of the training.

This community service activity was attended by around 35 residents who were members of the Wono Asri 3 Farmer Group and surrounding residents. The event was attended by administrators and members. The resource persons presented were representatives from the Bendo District BPP, from training activities to mentoring. The result of the community service activities that have been carried out is in the form of improvements in both knowledge and skills. The increase can be seen from the results of participant evaluations during and after participating in activities. This was obtained from the results of observations and interviews with the participants.

From the observation results, it can be seen the enthusiasm of the participants in participating in the activity. In addition, the improvement of skills can also be seen from this observation. From before the service activity took place, the participants were not yet skilled in using tools, mixing raw materials and mixtures, measuring the ingredients needed, until the participants could practice the process of making feed themselves starting from preparing materials and tools, operating chopping machines, measuring the materials needed, mixing shredded ingredients with mixed ingredients, carrying out the fermentation process until organic feed is ready to be used. From the results of the interview, the results of increasing their knowledge were obtained, which initially the participants only knew that organic feed meant feed derived from plants alone without any processing directly given to livestock. Until then understand that the nutrients from processed organic feed are higher than forage feed that is directly given without processing.

C. Evaluation and Follow-up as Skill Development

Evaluation is an activity carried out to obtain information on the success of the program including what are the obstacles to the implementation of the program. Through the evaluation, it can be seen how much the level of achievement of the goals of the community service program that has been set. The purpose of the evaluation is to determine the effectiveness and success of the programs that have been implemented (Listyaningrum et al, 2022).

The results of the evaluation are also used as material for improvement for the activities to be carried out next. The evaluation carried out by the community service team is also carried out to find

out the supports and obstacles to the implementation of the program. From several evaluation points carried out, this community service team found several findings, including the following Table 1.

Table 1 Results of Evaluation of the Implementation of the Organic Feed-Making Service Program

Support	Retardant
Good cooperation between the service team and partner institutions	The busyness of each service team and partner institution team
The preparedness of partner institutions in overcoming some of the obstacles that come from its side	Setting a schedule of activities by adjusting all components of the service
BPP's willingness to provide counseling assistance and cooperation in the role of a resource person for activities	Erratic weather which is one of the factors determining the schedule of activities
Abundant organic feed raw materials	
Solid farmer group management	

From the results of the evaluation, it can be seen the strengths and weaknesses in the implementation of the community service program that has been carried out. These results are then followed up to study the implementation of the next activity. The community service program related to the processing of organic feed made from elephant grass has been carried out well. Follow-up in the future can be developed by carrying out training related to large-scale feed production which then the results of the production can be used to increase the economy of the group and each individual member of the Wono Asri 3 Farmer Group.

CONCLUSION AND RECOMMENDATION

A series of service activities have been completed which are realized through good collaboration between the service team from Universitas Negeri Malang and partner institutions and breeders in the Wono Asri 3 Farmer Group. Activities are carried out by identifying target needs first, then prioritizing needs together with the team and management of partner institutions, program planning which includes activity schedules, materials, resource persons, and procurement of main tools in the form of chopping machines. The activity continued with the implementation of the program and ended with an evaluation and follow-up plan.

The community service activities that have been carried out have provided changes to farmers, both in the form of increasing understanding related to making organic feed and skills in the process of making organic feed assisted by chopping machines. This change in a positive direction shows that the implementation of these activities has benefits and deserves to be followed up with other developments.

Advice that can be given to the management of the target farmer group is to form an even more solid team of members, especially those who focus on breeders. This team is used for organic feed production activities, so that the organic feed needs of farmers can be met. Another benefit of forming this team is that the production results can later be used to improve the economy, namely by distributing the results of organic feed production made together.

ACKNOWLEDGEMENT

The community service implementation team would like to thank the leadership of the State University of Malang for allocating non-APBN funds in 2022 through LP2M, permits from the management of the Wono Asri 3 Farmer Group and cattle shed owners, as well as support and cooperation from cattle breeders who are members of the farmer group, so that this community service activity can run well and smoothly.

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