PAKDEMAS
Jurnal Pengabdian Kepada Masyarakat
EISSN 2809-7602
PISSN 2809-6614

APPLICATION OF DECANTER CAKE TECHNOLOGY IN VEGETABLE CULTIVATION IN THE PERINTIS JAYA WOMEN'S FARMERS GROUP (KWT), PANDAN SEJAHTERA VILLAGE, GERAGAI DISTRICT

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ABSTRACT

Every house in KWT Perintis Jaya has a spacious yard, many of which are located near oil palm plantations. The backyards are typically used for raising cows, chickens, and goats, while the front yards are cultivated with various plants, reflecting simple polyculture practices. Land management remains minimal, with vegetable plots rarely maintained or fertilized, resulting in low yields that are only sold at weekly markets. Some women farmers use fertilizers occasionally but inconsistently, resulting in low productivity. To improve yields while supporting low-income women, organic cultivation methods that reduce reliance on chemical fertilizers and production costs are needed. The village has two palm oil mills, PT. Muara Jambi Sawit Sejahtera and PT. Agro Jaya Perdana, which produces abundant plant-based waste. Through education and mentoring, this waste can be converted into organic fertilizer. Decanter Cake (DC) is the most easily transported and decomposed waste, and when enriched with Trichoderma sp., it becomes an effective biofertilizer. Activities at KWT Perintis Jaya include producing and applying DC and Trichoderma sp. in vegetable cultivation. Socially, KWT's active involvement strengthens networks and solidarity, while support from village officials enhances program legitimacy and opens opportunities for additional assistance. Economically, the frequency of daily kale harvests indicates rapid cash flow, making low-cost DC fertilizer adoption beneficial for reducing expenses and increasing profit margins. The target was achieved: 100 kg of Decanter Cake and 10 kg of Trichoderma sp. every two months.

Keywords: *Pandan Sejahtera village; decanter cake; mycorrhiza; biodecomposer*

INTRODUCTION

Pandan Sejahtera is a village located in the Geragai sub-district, East Tanjung Jabung Regency, Jambi Province. The population of Pandan Sejahtera is 925, with 65.21 percent of the village's population in the productive age group (BPS, 2024). The village community is diverse, consisting of various ethnicities, including Javanese, Malay, and a few Batak. This dynamic fosters community development. The majority of residents are farmers, particularly oil palm farmers. Men work on the oil palm plantations, while women primarily cultivate vegetables. The target community for the PPMPI program is members of the Women's Farmers Group, a group of women who cultivate various types of vegetables.

The Perintis Jaya Women's Farmers Group (KWT Perintis Jaya) was established in 2018 and has 55 members. Most of them are wives of oil palm farmers and livestock breeders, and are unemployed. Each house generally has a large yard, many of which are connected to oil palm plantations. The backyard is typically used for raising cattle, chickens, and goats. The front yard of a living stall is generally planted with a variety of plants. It reflects the polyculture farming method. Land cultivation is carried out only minimally. Their vegetable plots are typically neither maintained nor fertilized. It's evident in the vegetables grown haphazardly, which are only sold at weekly markets. Some female farmers fertilize their plants, but only occasionally. To increase the yield of vegetables grown by the KWT while still considering the conditions of the KWT women with low education and income, it is necessary to find alternative cultivation methods that are easy to implement and widely available around the village. Plant fertilizers should be organic, not chemical fertilizers, which can reduce fertilizer costs. On the other hand, there are palm oil mills near this village, namely PT Muara Jambi Sawit Sejahtera, PT Agro Jaya Perdana, and others.

These factories produce a lot of plant-based waste that, with guidance and mentoring, they can turn into fertilizer for plant cultivation.

Based on the description above, the problems in Perintis Jaya KWT are: vegetable yields on their land remain very low, and they are heavily dependent on inorganic fertilizers. They usually receive government assistance, but when aid is delayed, the plants are not fertilized and are highly reliant on it. Partners are housewives with low levels of education, so they are less likely to seek other initiatives. KWT members have never received training on processing waste into compost. They need to reduce their dependence on assistance from anywhere because they can work. Independently. KWT members are unaware of the waste from palm oil mills and whether it can be used in their vegetable business. The method used is community education through holding lectures on decanter cake technology for processing into solid fertilizer using brochures/leaflets and an infocus at the village office, holding discussions, questions, and answers about decanter cake fertilizer technology and how to ferment it, demonstrating how to use the purchased biodecomposer EM4, applying EM4 biodecomposer to the decanter cake to produce solid fertilizer/compost, applying decanter cake fertilizer to vegetable fields. Regular monitoring through site visits to the demonstration plot.

IMPLEMENTATION METHOD

The Rural Participatory Approach (RPA) is used, a method that actively involves the community in every stage of the PPM activities. (Chambers, 1994) It ensures that the provided material can be understood and implemented, particularly regarding the application of decanter cake Plus technology for vegetable crops r(Duaja & Tindaon, 2012; Duaja et al., 2020) (Duaja & Kartika, 2021)vegetable crops(Duaja, 2019). The advantage of using this method is that partners play an active role, with the team acting as facilitators, providing guidance and understanding, as well as assistance in establishing seedling houses and demonstration plots for vegetable crops.

The main activity is mentoring in the form of demonstration plots, which begins with community education through:

- Conduct a lecture on decanter cake plants and how to make them effectively, using brochures/leaflets and an Infocus at a venue provided by the partner.
- Hold a discussion and Q&A session on the biodecomposer Trichoderma sp., including the tools and materials needed (as provided in the lecture and demonstration materials).
- Demonstration of how to make solid decanter cake (compost), Mycorrhizae sp., and Trichoderma sp.
- Application of decanter cake fertilizer to vegetable crops (Duaja, 2021b).

RESULT AND DISCUSSION

Table 1. Type of activity, Executor, and Partner Contribution

No	Type of activity	Number of members present
1	Gathering all members of the Women Farmers Group/KWT	30 people
2	Preparing a venue for guidance and counseling (DEMPLOT), inviting all KWT members and village officials	The KWT chairman has done this.
3	Prepare the materials and tools needed for the demonstration plot. Materials: Fresh decanter cake, Biodecomposer, and making a vegetable bed for the demonstration plot.	The KWT chairman has done this.
4	Plot demonstration process 1. Making decanter cake fertilizer from fresh decanter cake using biodecomposers. 2. Application to vegetable crops of the Perintis Jaya Farmers Group (KWT)	20 people
5	Supervision every two weeks/monitoring	2 people. Take turns every day because they also harvest kale. The other members prepare the land for replanting.

The empowerment activities of the Perintis Jaya Women Farmers Group (KWT) through the application of decanter cake (DC) as an organic fertilizer, accelerated by a biodecomposer, demonstrated a high level of group participation and independence. The presence of 30 members at the initial collection activity demonstrated collective commitment and social readiness to accept cultivation innovations. The involvement of KWT administrators in preparing the site (DEMPLOT), inviting village officials, and securing materials/tools (fresh DC, biodecomposer, and bed preparation) demonstrated program ownership at the community level—a crucial factor for sustainability.

Technically, the demonstration plots (demplots) were implemented in two core stages: (1) making fermented DC fertilizer from fresh DC using biodecomposers; and (2) applying it to the KWT's vegetable crops. The involvement of 20 members during the demonstration plot process was representative of skills transfer, although not all members were present. It can be interpreted as a division of roles—some members focused on practical preparation and application, while others handled ongoing gardening, thereby strengthening operational efficiency.

The biweekly monitoring scheme, with two people in charge rotating daily, aligned with the KWT's work rhythm, especially since the kale harvest took place daily and some members were preparing the land for replanting. This pattern demonstrated good integration between the technology trial (fermented DC) and the daily farming cycle, meaning the innovation did not disrupt ongoing production but instead complemented it by adding organic fertilizer options. From a learning perspective, the rotation of supervisors provided an opportunity for equitable capacity-building among members while maintaining consistent record-keeping (application date, dosage, and plant condition).

CONCLUSSION

Socially, the full involvement of the KWT strengthens networks and solidarity. The presence of village officials during the preparation phase enhances the program's legitimacy and opens opportunities for further support (e.g., chopping tools, harvest tents, or additional funding for demonstration plots). Economically, the frequency of daily kale harvests indicates rapid cash flow, so adopting the relatively low-cost DC fermentation system could reduce fertilizer costs and increase business margins—provided agronomic performance is positive. Overall, implementation results demonstrate a strong institutional foundation, adequate technical execution, and an adaptive monitoring scheme.

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