

SOCIALIZATION OF MAKING LIQUID ORGANIC FERTILIZER USING STACK BUCKET MEDIA WITH THE HELP OF BLACK SOLDIER FLY LARVAE IN JATIMULYO VILLAGE

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Abstract - Organic waste of household kitchen be one of the problems. The notice of End of exhaust (TPA) for organic waste causes trash not well managed. It can bring up other problems such as the cause of the environment to be dirty and become a nest of the disease. but many citizens not yet knowing a simple way in the utilization of organic waste, especially households. From the issue of KKN 105 students group 155 University of Sunan Kalijaga Yogyakarta held socialization to the citizens about the use of the organic waste of households into liquid organic fertilizers (POC) with stacked bucket media using the help of Black Soldier Fly Larvae directly with the representative of the garden at the village of Jatimulyo Petanahan District Kebumen. The stacked bucket can process organic waste into environmentally friendly organic fertilizer. The method used is method experiment by implementing the socialization of organic liquid fertilizer using stacked bucket media. Results from socialization making POC with stacked bucket media is produce product that can be used by each resident's nursery.

Keywords: Organic Waste, Liquid Organic Fertilizer, Black Slodier Fly Larvae

1. INTRODUCTION

Real Lecture (KKN) is a mandatory subject with any student at the State Islamic University of Sunan Kalijaga Yogyakarta. Various activities can be made by students in community devices such as fertilizer training from organic waste. Garbage is a good which we often meet in everyday life. Every day the average must produce garbage both organic and anorganic waste. Garbage is a solid waste consisting of organic and anorganic substances that are considered useless and must be managed so that it is not to harm and protecting Investability of development. In maintaining the environmental cleanliness, we are will throw the trash to TPA (final disposal) or often referred to as well with TPS (garbage disposal)¹.

In the absence of a final exhaust (TPA), We should further put forward the use of household organic waste that can be done independently and in groups in the seeds of citizens. Organic waste of household is a robust organic waste quickly, for example the rest of the vegetables, the rest of the fruits and others. However, many citizens do not know the simple way in the utilization of organic waste, especially households. From the problem the student KKN 105 group 155 UIN Sunan Kalijawa Yogyakarta has confidence to socialization to residents about utilization household organic waste become a liquid organic fertilizer (POC) with stack bucket media using *Black Soldier Fly Larvae* directly with the representative of the garden center at the Jatimulyo village Petananahan District Kebumen Regency.

The buckle of a stack is a tool of making fertilizers made by uniting 2 buckets of stripped bucket. Bucket stack used to process kitchen waste with the help of BSF (*Black Soldier Fly Larvae*). Liquid organic fertilizer (POC) is a solution of the decay of organic materials from the rest of the plant, animal dirt and the rest of the food that the type of element is a lot of (Yovita, 2012). Liquid organic fertilizer (POC) has the advantage is compared to a solid compost is POC faster is absorbed by the soil and is more practical in use. On the essentially, waste liquid from material organic can be used to be fertilizers the same like waste solid organic many containing elements of hara (N,P,K) and material organic other. The function to help improve soil structure and the quality².

Larvae from the black troop fly (*Black Soldier Fly Larvae*) can speed up the decomposition so in a short time good quality compost will be obtained. Larva flytic black fly can easily be found in a pail of compost on various salt levels, alcohol or other compounds found in around so it can be done locally, no need to bring new or foreign beings in the place. Resistance of larvae in the less oxygen conditions are also still able to live, other than, they can live on a rotten rubbish like a waste of meat, milk or fish. When the trash is included in the reactor, black army larvae will release enzyme to remodel organic waste before it appears a smiting smell³. Larva

¹ Hastawan, Ahmad Fashiha; dkk. *Pelatihan Pemanfaatan Sampah Organik Rumah Tangga Menjadi POC (Pupuk Organik Cair) Dengan Bantuan Black Soldier Fly Larvae Secara Daring*, (Semarang: Universitas Negeri Semarang, 2008).

² Handayani, S.H. Yunus; Susilowati. A "Uji Kuallitas Pupuk Organik Cair Dari Berbagai Macam Mikroorganisme Lokal (Mol)", *Jurnal El-Vivo*, 2015, vol.3 No. 1 Hal . 54-60

³Dosen Fakultas Pertanian, *73 Teknologi Tepat Guna*, (Yogyakarta: Lily Publisher, 2019)

BSF consists from 6stage instar. These flies can be found all over the world in tropical and subtropical climates⁴.

The purpose of making this article is to educate citizens about how to utilize organic waste into liquid organic fertilizer (POC) with help *Black Soldier Fly Larvae*, so in its application it is expected to be useful as a fertilizer that has economic value / solution of reduce plant maintenance. Besides that, by filling the household waste into the stacked bucket is expected to make solutions free from environmental pollution.

2. METHOD

The method used in the implementation of this activity is experimental method with stages implementing various activities such as extension of make stacked bucket as a media manufacture of liquid organic vertilizer (POC) through offline direct socialization with representatives of citizen seeds. As for the online using social media like WhatsApp and Instagram used to inform citizens about the socialization of making liquid organic fertilizers (POC). Implementation of service activities is carried out in 4 stages are planning, socialization, implementatio nand evaluation. This activity involves residents of Jatimulyo Village Petanahan Distric Kebumen Regency such as PKK as a garden center.

Making liquid organic fertilizer (POC) done by preparing components that is 2 buckets, faucets, soldering / drill, knife and household organic waste. Trash used are food waste, rotten vegetables, fruit, and other organic materials but animal organic waste is not recommended because the smell of the stinging. How to make the liquid organic fertilizer as follows:

- 1) Prepare 2 buckets. The upper bucket is used to accommodate the waste, the bottom bucket is used to accommodate the likind water. The under the bucket was given a hole small-evenly evenly for the way of likind water and in the section side up the bucket as the air circulation as well as the place of entry *Black Soldier Fly Larvae*.
- 2) Take bucket for the bottom position, then lubricate the bucket club as a support for the bucket on top
- 3) Then the bucket of the bottom in holes as a place of faucet. Its function as a place of liquid liquid.
- 4) Pile bucket faucet and buckettop, where the faucet bucket as the section is below.
- 5) Input of domestic organic waste (Preferably in the form of frit residue to attract black army flies) into the top bucket
- 6) Let stand for more or less 2 weeks to look like a drip liquid the indicates can already be harvested.
- 7) Then pour the liquid into the bottle, then in dried in the sun with a bottle cap that is not tightly closed for approximately 1 week or until the color changes

⁴ Inggita Utami,dkk "*Maggor Black Soldier Fly Sebagai Degradasi Sampah Organik Dan Pakan Ternak Warga Mergangsang Yogyakarta*", Jurnal Ilmiah Pengabdian Kepada Masyarakat.Vol.4 No.2, 2020. Hlm. 127-135

from the pale color to slightly dark / black and the smell becomes less pungent.

- 8) The liquid has become POC and ready to use in direplaining way with dollains 3-5 tablespoons / 45ml-75ml POC plus 1 liter of water.

3. RESULT AND DISCUSSION

In making the liquid organic fertilizer (POC) using stucked bucket media with help *Black Soldier Fly Larvae* the online collaborates with residents and PKK in Jatimulyo Village Petanahan district Kebumen Regency has 4 stages delivery:

A. Planning

Planning of activity socialization making stucked bucket the aim is to make fertilizers organic liquid using the stucked bucket media so that push costtreatment and friendly environment. Target from activities this is management of eleven the garden residents the spread in the Jatimulyo village. Preparation the material carried out one moon before the implementation. Tools and material the needed like bucket 12, faucet 6, knife, and drill prepared one week before the implementation. This activities coordinate with PKK member and residents as a member the garden.



Figure 1. Preparation of socialization of built stucked bucket

B. Socialization

Socialization this working the same with head of (Coaching Welfare The family) PKK Jatimulyo Village in the spread information about schedule the implementation of making stacked bucket through the WhatsAapp group residents Jatimulyo Village and share the socialization of the making of liquid organic fertilizer with stucked bucket media that has been implemented.

C. Implementation

Socialization was held on July 24, 2021 starting at 09: 00 WIB until finished , practice with member of PKK as a representation of the garden. The stage of manufacture includes the manufacture of stucked bucket media. After practice making stacked bucket media then add a trash organic house stairs the has been brought. Event last that is submit stacked bucket or epresentatives management of the garden residents to managed. After that there is checking bucket stacked one week once to knowing the developoment of fluid as a material making fertilizers organic liquid. Last step in the making POC that is the harvest the carried out with pour the liquid to the bottle then in dry in the sun with closed bottle the not closed meeting during the less more 1 week or to color change from color pale to rather

concentrated/ black and the smell of to be notsting. Results harvest from bucket stacked the already dried then packed, given brand and logo from group 155. Results from socialization making POC with stucked bucket media can be used by each one the garden seed residents.



Figure 2. The implementation of Socialization activities



Figure 3. Result of Organic liquid fertilizer



Figure 4. Checking in the garden residents

D. Evaluation

The implementation of this take place the successfully. With enthusiastic the representatives from management of the garden in the follow the implementation of activities socialization is good. However there is a little obstacles, the first about time the implementation of the should be started on the at 09:00 WIB to be at 10:15 WIB. So that backward time the implementation of the has been scheduled. The second, representative seach the gardent here is the unable to present so that not to achieve which target expected to. The third in the checking bucket stack in each the garden there are the difference color (concentrations of) on the water leachate because of the difference trash organic the included, appearance Maggot BSF (*Black Soldier Fly*) However there is some which media not bring up maggot because of aroma fruit the not preferred by flies BSF and conditions environment not

corresponding like exposed to scorching the Sun too long lead temperature increased and decay to be hampered.

4. CONCLUSION

Based on the results of activities that have been implemented, it can be concluded that the implementation of the socialization of organic liquid fertilizer using the media stucked bucket get good results and quite satisfactory. Visible from enthusiastic citizens in following the socialization of making stucked buckets that are directly practiced after being completed with activities. Results from socialization making POC with stacked bucket media is produce product that can be used by each resident's nursery.

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