MASSIVE OPEN ONLINE COURSE (MOOC)

ORGANIC FARMING

PROJECT REPORT I
ORGANIC MANURE MAKING

SUBMITTED TO

MAHATMA GANDHI UNIVERSITY
KOTTAYAM

SUBMITTED BY

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Re-accredited by NAAC with A++
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CERTIFICATE

This is to certify that this project report on is “Organic manure making” an authentic record of work carried out by Bilna Biju, student of St Xavier’s College For Women Aluva, as part of MOOC course on Organic manure making offered by Mahatma Gandhi University, Kottayam

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INTRODUCTION

Organic Fertilizers are fertilizers that are naturally produced. Fertilizers are materials that can be added to soil or plants, in order to provide nutrients and sustain growth. The use of organic manure is one of the alternative ways for enhancing production and improves the soil health. Most manure consists of animal feces; other sources include compost and green manure.

Organic manure making is the process of converting household and kitchen waste into valuable manure. Through this process, we can turn kitchen waste into something useful. It is our responsibility to process the waste generated by us. Kitchen waste can be converted into organic manure through different methods. Organic manure is made from natural products. Inoculums, cow dung, and sawdust were used alternatively for faster decomposition.

MATERIALS AND METHODS

Δ Location of the college & student

- Location of college Aluva, Ernakulam
- Location of student: Neericode, Ernakulum

Δ Project theme

Organic manure improves the soil structure and is used as a natural fertilizer in farming. It increases the soil capacity to hold more water and nutrients. It also increases the microbial activity of the soil to improve its mineral supply and also the plant nutrients. Conversion of organic waste generated at the household level to useful materials like manure is the theme of the project.

Δ Waste used

Fruit waste, fish waste, vegetable peel, and brown waste

Δ Materials required

Carbon-rich (dry materials) and nitrogen -rich (green materials) Waste materials, Bio bins, composting inoculums are required.

- ❖ Brown Material – This includes carbon -rich dry material such as dry leaves, sawdust, soil….
- ❖ Green Material -Waste from the kitchen garbage like Peels of fruits and vegetables, egg shells, rotten fruits…

Δ Preparation of inoculum

Inoculation is a widely used method to improve the efficiency of an anaerobic digestion with a high organic load. Composting inoculums are consortia of microflora that can easily decompose vegetable and food wastes. They include bacterial and fungal strains.

Cow Dung slurry prepared from cow dung is used to substitute the composting inoculum. It is prepared by mixing cow dung with water. Presence of naturally occurring beneficial organisms, predominantly bacteria, yeast, actinomycetes and certain fungi, cow dung slurry can be used instead of composting inoculum.

Δ Methodology

The composting processes I have adopted is kitchen waste composting.

Δ Kitchen waste

- The base holes of the port are closed
- At the bottom of the pot a layer of soil is spread

- Add paper piece and crushed newspaper at crust dry leaves above the soil
- At the bottom of the pot, a layer of dried leaves and some soil spread
- Above this layer, spread the kitchen waste
- Over this layer, add the composting inoculum
- Observe the moisture content and add adequate amount of water
- Repeat the above process till the port is filled.

Care should be taken to fill the waste on the same day of its generation as the delay may cause egg-laying by flies and contamination by its larvae.

OBSERVATION AND DATA COLLECTION

Table 1 :Waste Materials and Quantity

SL.No.	WASTE AND APPROXIMATE WEIGHT KITCHEN	SL.No	BROWN WASTE AND APPROXIMATE WEIGHT
1	Vegetable peel – 600 gm	1	Dry leaf –700 gm
2	Banana peel – 300 gm	2	Newspaper –50 gm
3	Fish waste and fruit waste – 700gm	3	Paper piece– 30gm

On the first day, the bottom of the pot was layered with dried leaves and papers. Then kitchen waste was filled. Above this, waste decomposer was added. From the next day onwards, added daily kitchen waste and waste decomposer was added. The same process continued till the compost was ready. Dried leaves and papers are used more when there is excess water content. The compost was ready within 40- 50 days.

PHOTOS

COST BENEFIT ANALYSIS

Cost benefit analysis is the standard economic method to assess the financial viability of investments. The cost and measuring the benefit by that cost are two main parts of a cost benefit analysis.

I made the manure with no cost. All items (vegetable peel, fruit peel, dry leaves, fish waste, pot, newspaper, inoculums) and materials are taken from home and surroundings. The manure making was less cost effective and beneficial. Inoculum is made by using cowdung slurry that I have brought from nearby house.

CONCLUSION

The production of agricultural produce under organic fertilizer will boost the yield of the crop compared with inorganic fertilizer. Organic manure has multiple benefits due to the balanced supply of nutrients, increased soil nutrient availability due to increased soil microbial activity, the decomposition of harmful elements, soil structure improvements and root development, and increased soil water availability. Composting will undoubtedly be an essential part of producing a good potting media. The composting process will take time to perfect for individual local conditions, materials, manpower etc. It is therefore best to start small and simple until expertise has been gained. The goal of composting is to produce a consistent product year after year. As we were using organic manure, harvesting was more than expected.

ABSTRACT

Organic manures provide all the nutrients that are required by plants but in limited quantities. The quality of composed is good. I had taken forty two days to form the final composed. The total weight of the compost formed is 2 kg. Organic manure is good for both our crops and soil. In this MOOC organic farming manual preparation project, manure is prepared from kitchen wastes using pot composting method. For preparing compost waste material such as food waste, vegetable and fruit peels, fish waste were used. It is also one of the best ways to discharge kitchen waste. All the essential conditions were ensured for the manual making. Thank you, MG University, for the great experience

REFERENCES

https://www.voiceofplant.com/how-to-make-compost-kitchen-waste

https://www.wikihow.com/compost

https://www.google.com/