

IMPACT OF COMPOST TECHNOLOGY AND MANURE COLLECTION METHOD THROUGH COIR PITH IN POLLACHI TALUK, COIMBATORE, DISTRICT, TAMILNADU, INDIA

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Abstract

One of the most important products derived from coconut is coconut husk. From this the fiber is separated. Thus during extraction, a large amount of residual fiber waste is obtained. Our Indian coir mills generate 7.5 million tonnes of coir waste annually. 5 lakh tonnes of fiber waste is available from Tamil Nadu alone. Due to its ingredients, it is used as a growing medium in horticulture. Coir waste is still not considered as an important source of organic matter for agriculture due to its high proportion of organic matter, organic matter and low level of biodegradation. Therefore, reducing the ratio of organic matter, nutrients, lignin and cellulose, coirpith can be used as good source altering the fertilizers.

Key words: coir pith, organic matter, compost, fiber, manure

INTRODUCTION

Benefits of Composted Coir Waste Adding humus fiber waste to the soil improves soil properties and tillering. It increases the hardness of sandy soils and aerates clay soils. Aggregates improve soil structure. Increases water retention and increases soil moisture. It is used for both top (10-15 cm) and bottom (15-30 cm) mixing. Soil density decreases. As this humus contains all the plant nutrients, it works well with synthetic fertilizers. By composting, it increases soil micro-organisms. Ammoniumization, nitrification and nitrogen fixation reactions are enhanced by microbial activity.

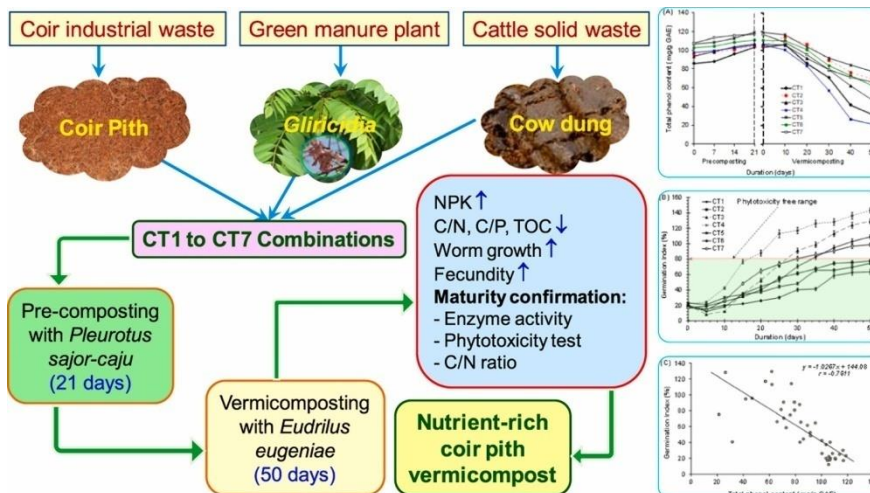
OBJECTIVES OF THE STUDY

- To find coir pith usage and applied as manure before sowing.
- To use in nurseries, for soil mixture to be filled in polythene bags and soil pots is prepared by mixing 20 percent humus fiber with soil and sand.
- To obtain well-developed trees like coconut, mango, banana and fruit trees, a minimum dose of 5 kg per tree is sufficient.

Coir waste compost technology

Collection of raw materials

Deodorized coir waste is collected from coir waste factories. The fibers are first extracted by boring, or extracted at the end of composting. Because these fibers are non-biodegradable, they delay other wastes from composting. So during composting, it is better to separate the fibers



CHOOSING A LOCATION

Choosing the right location is good. Choosing a location between coconut trees or under any tree shade is very beneficial. Because the shade of the trees keeps the moisture in the composting waste. The floor should be well leveled. A cemented floor is ideal.

STIRRING THE PILE

This slurry should be stirred once in 5 days. This allows fresh air to flow in and expel the air that has already been used there. This composting takes place with the help of air. This is because nitrogen gas is necessary for the functioning of the microorganism which helps in composting.

Therefore, stirring the pile presumably helps in better aeration. Alternatively, perforated ductile iron or PVC pipes can be inserted vertically or horizontally to provide ventilation.

MOISTURE RETENTION

Moisture retention is essential to obtain good quality compost. 60 percent humidity is essential for composting. This means that composting waste should always be moist. At the same time, excess water should be removed from the sewage. To check for adequate moisture in the waste, take a handful of waste and squeeze it between the palms. This is the correct position if there is no water leakage.

MATURATION OF COMPOST

The time it takes for waste to decompose varies depending on the waste. If all the factors are at right level, the waste will be composted in 60 days. The classification of waste can be determined by its physical constituents. First, the volume of waste will decrease and its height will decrease by 30 percent. Second, the color of organic waste becomes black and its particles become smaller in size. Third, the earthy smell comes from compost. Chemical changes can be observed in the laboratory. In this, the ratio of organic matter and fertilizer will be reduced to the extent of 20:1. Oxygen gas consumption will be less. Microbial count is low. The amount of nutrients taken up by crops is high



COMPOST COLLECTION METHOD

Fertilizer should be collected on time. Dissolve the compost heap and spread it well on the ground. This will reduce the heat in it. Then the rest can be composted again in the compost bed. The manure thus collected should be well preserved. Store in a pile in a well-ventilated, shady place. If the humidity drops, sprinkle water to preserve the humidity.

Nutritive value of raw and composted coir pith compost

Parameters	Raw coir pith (%)	Composted coir pith (%)
Lignin	30.00	4.80
Cellulose	26.52	10.10
Carbon	26.00	24.00
Nitrogen	0.26	1.24
Phosphorous	0.01	0.06
Potassium	0.78	1.20
Calcium	0.40	0.50
Magnesium	0.36	0.48
Iron(ppm)	0.07	0.09
Manganese(ppm)	12.50	25.00
Zinc(ppm)	7.50	15.80
Copper(ppm)	3.10	6.20
C:N ratio	112.1	24:1

- Economically it is difficult to buy it and plant it in a very large amount of land. So it is better that we make our own and put it in the farm.
- Before buying composted fiber waste, it is important to check whether the waste is completely composted and the quality certificate.
- By adding non-compostable waste to the soil, it absorbs nutrients and decomposes even after it is added to the soil. So the crop growing in the land is affected.

This method of composting is done with the help of air. So we have to set the pile above ground level. It does not require excavation and concrete tank construction. In this spread odorless coir waste 4 feet long and 3 feet wide. First spread the odorless waste to a height of 3 inches and moisten it thoroughly with water. Then add any fertilizing material, for example urea or poultry manure.

If urea is added for fertilization, 5 kg of urea should be first divided into 5 parts and then added to successive layers of waste in each part. If chicken manure is added for fertilization, 200 kg of chicken manure is recommended for 1 tonne of waste. This 200 kg manure is separated in required proportion and added to the waste.

For example, 1 ton of waste is divided into 10 components. 20 kg of chicken manure is spread over the first layer. Then microbial mixtures such as Bluetus and Tamil Nadu Agricultural University microbial mixture (2 percent) are placed on top of the waste. Similarly, spread coir waste and compost on top of each other. It is best to raise it to a height of at least 4 feet.

But if the spread is more than 5 feet then it is necessary to use machinery for handling. Increasing the height helps retain the heat released during fermentation. At the same time, heat generated in low-

height piles dissipates faster.

CONCLUSION

Coir pith uses in our day to day life more and more usage in all possible ways. But still people not aware about the coir pith. As per statistical analysis coir pith uses to cultivate purpose and improve soil capacity also more awareness should bring by the Govt.sectors among the people and explain about the coir pith usage. In forthcoming day, people should return to the coir pith agriculture cultivate.

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