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RESEARCH ARTICLE

NATURAL COMPOST MADE EASY

***Prof. Mayur Phatak, Nanu Suyal, Shruti Tiwari, Shubham Shende, Shumham Khattar, Sanchit Soni, Aditi Tandon, Ankush Goyal, Bhavya Agnihotri, Sarvesh Shrivastava, Zia Shaikh, Rashmi Keshari, Kashish Anand, Ashnav. Alexander, Menka Rana and Meenal Asnani**

Universal Business School (AICTE Approved PGDM) Associate with Cardiff Metropolitan University, UK

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**Corresponding author:*
Prof. Mayur Phatak

ABSTRACT

There is a growing movement towards creating the desire for zero waste societies. This movement aims at reducing the amount of vegetable wastage. This will not only reduce environmental impacts, but also build upon a more sustainable future. Composting is one strategy to achieve these goals. The purpose of this report is to outline the findings of a composting pilot project at Universal Business School (India-Karjat, Dist-Maharashtra). This project was implemented to quantify the amount of organic waste produced in UBS canteen and assess the impact of separating and treating this waste. The project also incorporated investigation of behavioural barriers to implementing organic waste recycling, analysis of the impact of treating commercial and college waste streams and comparison of treatment technologies. The study was conducted in 1 phases: to study the leachate characteristics of vegetable waste. The results showed that around 55-58% of volatile solids reductions was possible within four months of composting of vegetable waste. Odor is the one of the major problems during the initial stage of composting of vegetable waste.

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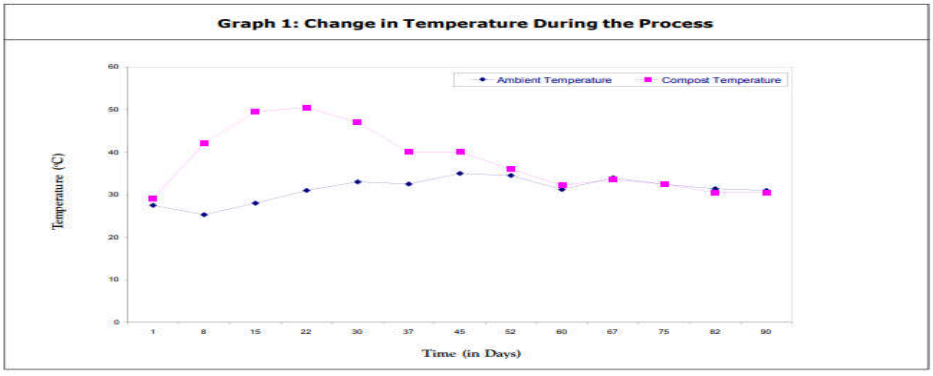
INTRODUCTION

A major problem faced by communities throughout our country is the treatment, disposal, and recycling of solid wastes. Generally solid waste from a community consists of biodegradable organic materials. Nearly 95% of the waste is generated in the city is disposed of in landfills. This pollutes the underground water and also flies, mosquitoes and many other pests breed on the waste and unless properly maintained, the dumps are a public health hazard. Composting is nature's way of recycling. Organic materials break down in the presence of oxygen. Friendly decomposers, including bacteria, fungi and organisms that are easier to see such as worms and woodlice, feed on the organic waste materials you provide - leaving you with some fantastic compost! It is a completely natural process- and it's easy! All you have to do is create the right conditions, and it will happen with very little effort on your part! The friendly decomposers are living things and like us they need food, moisture and air to survive. Look after them and they will keep supplying you with wonderful garden compost

Objectives: The objective of this compost project is to study the performance of the aerobic composting of vegetable and fruit, dry Leaves, dry flowers wastes in different proportions which may prove to control the environmental pollution and the end product will be useful to the peoples. To supplement plant requirement of organic matter and other plant nutrients. To reduce daily generated college kitchen vegetable wastes at the source by minimizing the wastes.

Save Money: Making compost can save a small fortune in horticultural and waste disposal costs by providing a simple and cost effective solution to the problem of organic waste. Making compost saves the average gardener hundreds of pounds over the year. Soil-improvers and growing media are bought less often and using homemade compost costs nothing. College kitchen vegetable waste is typically charged by the tone; if all possible material is composted waste bills can be significantly reduced. New technologies allow even more materials to be composted, further reducing waste. Anaerobic digestion and in-vessel composters are just some of the ways waste can be converted into usable materials.

Have the right materials for compost: Green materials, often called 'greens', are high in nitrogen and rot down very quickly. Grass clippings, nettles, fruit and vegetable peelings, tea bags/leaves, coffee grounds, manure from cattle, poultry are all examples of green material.


Graph 1: Change in Temperature During the Process
Ambient Temperature
Compost Temperature
Temperature (°C)
Time (in Days)


NATURES WAY OF RECYCLING
Builds sound root structure in plants
INCREASES ORGANIC MATTER IN SOILS
reduces water demands of plants &
ATTRACTS AND FEEDS EARTHWORMS
Gives sandy soil body to hold moisture

Continue …


CAN EXTEND THE GROWING SEASON
replaces reliance on petrochemical fertilizers
CONTROLS SOIL EROSION
improves vitamin & mineral content in food
MAKES CLAY SOILS AIRY SO THEY DRAIN
reduces plant stress from drought & freezes
BALANCES PH OF SOIL
Making it at home reduces your guilt (and waste) by 60%!
60%
REDUCES GLOBAL WARMING

1	Dog or cat feces. (Including litter tray waste)	Contains bacteria that will not break down in the composting process and can cause severe health conditions. There is also a strong chance of parasites being present in dog and cat feces, these will not be killed during the composting process.
2	Human feces and urine	Human waste should not be composted for similar reasons that cat and dog waste should not be composted. Garden Organic does not recommend using human urine in school compost due to hygiene health and safety issues. Diluted human urine can be used as an activator at home with no health or hygiene issues
3	ANY cooked food, including fruit and vegetables.	Cooked food can attract rats and other vermin.
4	Raw meat and fish, including dead animals.	This will attract rats and other vermin, including foxes that will travel to raid your bin.
5	Liquids such as oil, gravy, milk and soft drinks.	These could attract vermin and may affect the composting process.
6	Glass, plastic and metal.	These materials will not compost.
7	Glossy magazines and junk mail.	These sometimes have a thin layer of plastic that will not rot down. It is better to recycle this waste, rather than compost
8	Ash from coal or coke fires	These are high in sulphur. This can disrupt the composting process and poison the soil.
9	Seeds, weeds and plants with diseases.	Many seeds, some weeds and diseases are resilient enough to survive in a standard compost heap. Surviving seeds will germinate when the compost is used, making more work and taking nutrients from your plants.

Material	Investment
4 Plastic Drums	700 Rs Each = 2800 rs
Mixture of Cow dunk, Dry Grass, Worm compost)	30 Kg =3000 rs
Duration	1 Month
Total Investment	5800 Rs
Total Collected Compost	120 KG
Expected Sell	100 Rs Per kg x 120 = 12000 Rs
Expected Profit	6200 Rs (Per Month)

The high nitrogen content makes some green material excellent 'activators', i.e. they kick-start the compost process.

Procedure

Each plastic drum (around 50 kg) must be drilled small hole to circulate air in the drum then add the 1 layer mixture of dry grass with cow dunk and worm mixture (remix powder). Second layer for chopped mixture of waste vegetables, used tea powder, tea bags, dry flowers, dry tree leaves etc. For Kitchen waste This organic culture of micro-organisms makes composting faster. The ability to act on lignin prevents lump formation, reduces stench because it creates air spaces. It is a more effective as compared to the conventional composting accelerators that act only on the cellulose portion of the waste. If your pile is too dry, mix microbes in water and add. Else it can be added directly onto waste. For home composting use one teaspoon every 7 days. Mix into a moist pile for best results. For Dried Leaves These microbes are also great for leaf composting in our leaf composters. Wet your pile of dried leaves or grass. Add 2 tablespoons in.

- Litre water and spray the pile once in 4 days.
- Using first step for the next 2 weeks and then starting the same procedure with next drum.
- After 3 weeks the 1st drum material started decomposing so remix the whole drum mixture from bottom to upper side and reshuffle.(Same procedure used with the other drums)
- After 4 weeks and 20 days collected the fine black compost.

Final Product: After 1.5 months of decomposition and 1 month of maturing, compost should be black, with very little recognizable food particles. Sieve it if you want 'tea leaf texture'. Some folks prefer to use it without sieving and simply pick out the large chunks.

Know what not to compost: Knowing what not to compost is just as important as knowing what to compost. Adding inappropriate material to a compost heap may cause problems such as attracting pests or slowing the process down.

Conclusion

It is concluded that the recycling of the vegetable waste through aerobic composting method is a simple method to

process and operate which is nuisance free, environmental friendly, aesthetically good looking, economical in long term and socially acceptable as the final product has good fertilizer value.

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