

**Marathwada Shikshan Prasarak Mandal's
DEOGIRI COLLEGE, AURANGABAD**



**REPORT OF VERMICOMPOSTING IN CAMPUS OF DEOGIRI
COLLEGE, AURANGABAD**

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REPORT OF VERMICOMPOSTING IN CAMPUS OF DEOGIRI COLLEGE, AURANGABAD

Brief about Activity

Bio fertilizers are cost-effective. They reduce the risk of plant diseases. Benefits of bio fertilizers is their ability to aid soil health, unlike traditional bulk fertilizers which, although containing naturally found minerals such as phosphorus and nitrogen, may overload the soil, ecosystem, leading to a chemical imbalance and toxicity. Vermicompost do not cause any type of pollution.

Department of Botany is one of the oldest departments of this College, established in 1960. In the course content the department runs short term course on Production of Biofertilizer along with Botany for degree and PG courses. As this course is one of the important need of present era to undergo sustainable use of the existing resources, the Department of this college has taken initiatives towards social responsibility in reclamation of soil quality by starting Biofertilizers production certificate course since last ten years and its production of vermicomposting is used in the premises.

To create awareness about healthy soil /farm/field / in students required applied knowledge of organic gardening. The Under-graduation student does not have adequate knowledge of various useful aspects of gardening including vermicomposting units.

Thus our college campus support sustainable development. This activity is done solely by the students and teachers of Dept of Botany and Campus Beautification committee in limited resources.

Objective:

Dependence on chemical fertilizers for future plant growth and garden maintenance would mean further loss in soil quality, possibilities of water contamination and unsustainable burden on the system.

- To promote organic manure for garden plants available organic inputs such as biofertilizers.
- To prevent pollution and environment degradation by proper conversion and utilization of organic waste.
- To reduce the total dependence on chemical fertilizers and pesticides by increasing the availability and improving the quality of Biofertilizer,
- To convert the organic waste in the campus such as leaf litters, lawn grass after cutting in to plant nutrient resources.

Solid waste management using Composting Technology

Composting technology helps to recycle kitchen and garden waste and reduce the volume of waste going to dumping area and landfills.

Location of unit:

Beside central workshop

Specifications:

1. Food waste (organic) collected from: Girls hostel mess, College canteen
2. Daily food waste produced: 20 to 25 kg/day
3. Composting unit dimensions: 3.0m x 1.2m x 0.9 m
4. Daily spreading of soil and food waste is: - 20 to 25 kg
5. Culture medium used: 40 gm.
6. Total volume of compost unit: 3.32m³
7. Total Compost collected from first unit after 45-60 days: - 2500 Kg
8. Application of Compost to plants (10 kg/Plant) - 250 plants

Methodology:

Composting is simply the process of breaking down the organic matter (food waste) in the presence of air and water, using micro-organisms and small insects present in nature.

Important factors in composting technology:
Important factors of composting unit are Air, microorganism, moisture, food waste and heat.

Air:
This method is aerobic composting as it required air. Lack of oxygen can lead to unpleasant smells so we have provided air outlets of 12 numbers having diameter 50 mm(Ø) at outer surface of composting unit for aeration so that unpleasant smell will not disappear.

Moisture:
We have to sprinkle 1-2-liter water on layer to keep healthy environment for aerobic bacteria in unit.

Heat:
Compost itself will generate heat. We get better results in outdoors as there is external heat which helps to decompose organic matter faster. The end product is called compost which is rich in readily usable plant nutrients forming a healthy soil.

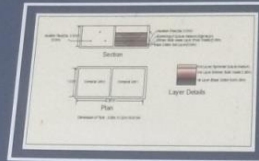


Fig 1- Specifications of compost unit with details of soil, food waste layer and culture medium



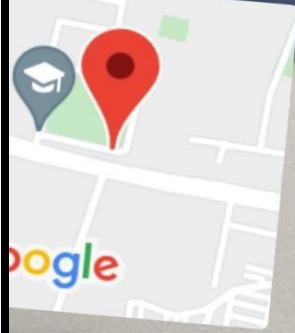
Fig. 2- Compost unit covered with metal sheet



Fig.3 Collection of compost from first compost unit.



Fig..4. Application of Compost to plants through plant basin



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Campus Beautification Committee

Planter Bed preparation by using Grass, leaf litter, Vermicompost and soil





Lawn grass used for humus preparation and composting.



Biological waste used in Planter beds





Vermi-composting functioning, Participation of Students





Vermi-composting functioning, Participation of Students





Vermicompost vectors



Refined Vermicompost



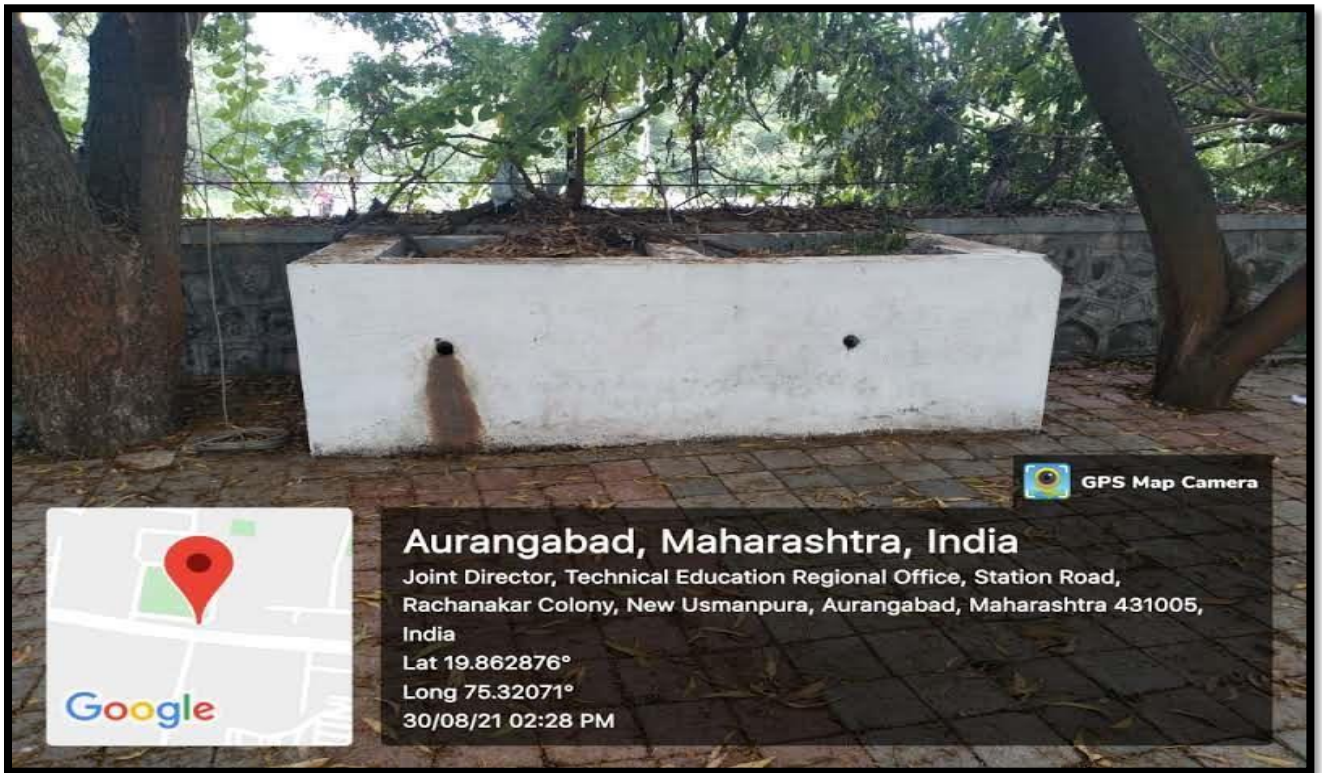
Vermicompost taking out for Plants





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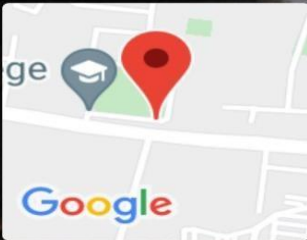
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Vermicompost Pits



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