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# Vermicomposting Unit of Vivekananda College, Thakurpukur

## Introduction

The Vermicomposting Unit at Vivekananda College, Thakurpukur, is a significant initiative that aligns with the college's commitment to sustainable practices and environmental awareness. The college has established a vermicomposting unit in 2022, which also functions as an incubation centre for the creation and transfer of knowledge and technology. The unit was established in 2022.

## Establishment of the Vermicomposting Unit

The establishment of the vermicomposting unit involved several stages, starting with the construction of the composting pits. The following steps highlight the key phases:

### 1. Construction of the Composting Pits:

• Initial groundwork involved the preparation of the site and the construction of the composting pits. These pits were built with proper ventilation and drainage systems to facilitate the composting process effectively.

### 2. Infrastructure and Setup:

• A dedicated structure was erected to house the vermicomposting unit. This building ensures the protection of the composting pits from adverse weather conditions and provides a controlled environment for the composting process.

# **Pit Method:**

- Two large pits (9x7 feet) have been dug in one corner of the college premises besides the college pond.
- The walls of these pits are cemented.
- A layer of cow dung was applied, and *Eisenia fetida* earthworms were introduced.
- The pits are regularly filled with garden waste (dried leaves) and vegetable waste from the college canteen.
- Every 1-2 months, the vermicompost is harvested using sieves, and the pits are refilled with garden waste and water.



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# **Functioning of the Vermicomposting Unit**

The functioning of the vermicomposting unit is designed to be both efficient and educational:

#### 1. Composting Process:

- Organic waste is collected from various sources within the college campus and placed into the composting pits.
- The pits are lined with plastic sheets to prevent leachate from contaminating the soil and to retain moisture levels necessary for the composting process.

## 2. Introduction of Earthworms:

• Specific species of earthworms, known for their efficiency in decomposing organic matter, are introduced into the pits. These worms accelerate the breakdown of organic waste, converting it into nutrient-rich vermicompost.

## 3. Harvesting the Compost:

• The final product, vermicompost, is harvested periodically. This compost is a valuable resource for enriching the soil in the college's gardens and agricultural plots.

# Outcomes

The vermicomposting unit, as an incubation centre, has yielded several positive outcomes:

- Enhanced Learning: Students gain practical experience in sustainable agricultural practices.
- **Skill Development:** Students develop skills in vermiculture, waste management, and marketing.
- Research Culture: Encouragement of a research-oriented approach among students.
- Environmental Impact: Contribution to maintaining an eco-friendly campus.
- **Knowledge Transfer:** Effective creation and transfer of knowledge and technology in bio-fertilizer production.
- **Curriculum**: The vermicomposting unit has provided hands-on experiential learning opportunities for students as part of the Zoology curriculum under CBCS and CCF and Resource Ecology Elective of PG, enhancing their understanding of sustainable agricultural practices.

### **Benefits and Outcomes**

The vermicomposting unit provides numerous benefits to the college and the surrounding community:

### 1. Environmental Benefits:



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- Reduction of organic waste through composting contributes to lower waste disposal costs and minimizes landfill usage.
- The production of vermicompost enhances soil fertility and promotes organic farming practices on the campus.

# 2. Educational and Practical Learning:

- The vermicomposting unit serves as a live laboratory for students, providing hands-on experience in sustainable waste management and organic farming.
- Students learn about the ecological benefits of composting and the practical applications of vermicompost in agriculture.

## 3. Community Engagement:

- The initiative fosters a sense of environmental responsibility among students and staff, encouraging the adoption of sustainable practices in their daily lives.
- The unit also serves as a demonstration project for the local community, promoting awareness about sustainable waste management practices.

## **Future Plans**

The college aims to expand the vermicomposting unit by increasing the number of composting pits and introducing more organic waste sources. Plans also include organizing workshops and seminars to educate the broader community about the benefits and techniques of vermicomposting.

### Conclusion

The Vermicomposting Unit at Vivekananda College, Thakurpukur, stands as a testament to the college's dedication to sustainability and environmental education. By converting organic waste into valuable compost, the unit not only enhances the college's green initiatives but also provides a practical learning platform for students, fostering a culture of environmental stewardship.



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Construction of vermicomposting unit



Pit inside the unit



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# Front side of the unit





Nchanda Toschor-in-Chargo VIVEKANANDA COLLEGE Thakurpukur, Kol-8,\*\*

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Introduction of Eisenia fetida inside the pit



Water being sprinkled inside the pit



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Covering the pit to retain moisture



The pit containing the compost



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The first yield from the unit



The compost stored within sacks

**Dr. Gunjan Dhar** Assistant Professor in Zoology Vivekananda College, Thakurpukur

Incharge of Vermicomposting Unit





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| Ref. No                                      | Date   |
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|  | Notice   |
|  | Date: 8/12/2020  |
|  | Gunjan Dhar has been appointed as the In-charge of the<br>illege with immediate effect. Dr. Dhar will be responsible for<br>tenance, and development of the vermicomposting activities |
|  |  |
|  | Heperder   |
|  | Principal<br>Vivekananda College<br>Thakurpukur Kol-63   |
|  | Dr. Tapan Kumar Poddar<br>Principal<br>[Vivekananda College Thakurpukur]   |
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| 3            | Painting Work  | 995415                | 1450       | 5q.ft                | 22.00       | 31,900.0     |  |
| 4            | Iron Window (5 Pcs)  | 995415                | 22         | Sq.ft                | 650.00      | 14,300 (     |  |
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# Bills and vouchers of construction of vermicomposting unit

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**Receipt of vermicompost** 



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