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## **Criterion-VII: Institutional Values & Best Practices**

### **Indicator 7.2 Best Practices**

### **Vermicomposting**

Shikshan Prasarak Sanstha's  
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REPORT OF  
**VERMICOMPOSTING**

## INTRODUCTION

Biooxidation and stabilisation process of organic materials that involves the joint action of earthworm and microorganism. Compared with composting, vermicomposting has higher rate of stabilisation and it is greatly modifying its physical and biochemical properties, with low C : N ratio and homogenous end product. It is also costeffective costeffective and ecofriendly ecofriendly waste management management. Due to its innate biological, biochemical and physicochemical properties, vermicomposting can be used to promote sustainable ruminant manure management. Vermicomposts are excellent sources of biofertiliser and their addition improves the physiochemical and biological properties of agricultural soils. In addition, earthworms from the vermicomposting can be used as source of proteinto fishes and monogastric animals.

## OBJECTIVE

- **Waste management**

Vermicomposting is an eco-friendly way to manage organic waste. It can help reduce the amount of foul-smelling waste that is dumped in fields and around animal farms.

- **Soil health**

Vermicompost can improve soil fertility, structure, aeration, and water retention. It can also help restore damaged soil and reduce erosion.

- **Plant growth**

Vermicompost can help plants grow better and increase yields. It can also reduce the need for harmful synthetic fertilizers.

- **Soil biodiversity**

Vermicompost can increase the diversity of soil microbes and plants.

- **Nutritional value**

Earthworm-fed fish can be a good source of nutrition, and could potentially be used in human and animal diets.

## **METHODOLOGY**

Vermicomposting is a method of composting organic waste using earthworms. Here are some methods and tips for vermicomposting:

- **Bed method:** This is a simple method that involves making beds of organic matter.
- **Worm bins:** These can be made from wood or plastic, and should have holes or mesh for aeration. Plastic bins need more drainage than wooden ones because they don't absorb water.
- **Temperature:** Vermicomposting needs to be kept at temperatures that are suitable for earthworms, which is generally between 15–25°C.
- **Food scraps:** Bury food scraps completely so they're covered by bedding, and don't add more than the worms can eat in a few days.
- **Harvesting:** Gently remove the top layer of compost until you find worms, then expose them to sunlight to encourage them to burrow deeper.
- **Starting over:** After harvesting, you can restart the process with fresh bedding and food.

## **ADVANTAGES OF VERMICOMPOSTING**

- **Soil health**

Vermicompost improves soil structure, aeration, and texture, and reduces compaction. It also increases the soil's water retention capacity and fertility.

- **Plant growth**

Vermicompost helps plants grow better, germinate, and produce more crops. It also improves root growth and structure, and helps plants absorb nutrients.

- **Pest and disease control**

Vermicompost can help suppress pests and diseases that affect plants.

- **Environmental benefits**

Vermicomposting is an eco-friendly way to recycle organic waste without using chemicals.

- **Soil nutrients**

Vermicompost is rich in nutrients and helps restore soil nutrients. It also contains plant growth hormones that help nurture the soil.

- **Humic acids**

Vermicompost is rich in humic acids, which help balance the pH of the soil and condition it.

- **Circular economy**

Vermicomposting can be a profitable enterprise that contributes to a circular economy.

## PHOTOGRAPHS



**Vermicomposting Bed**



**Vermiwash collecting Can**



**Vermicompost**



**Vermiwash**

## CONCLUSION

Vermicomposting is a process that uses earthworms and microbes to break down organic waste into nutrient-rich compost, also known as vermicompost or "worm castings". Vermicomposting has many benefits, including:

- **Enhances plant nutrition**

Vermicompost is a great source of plant nutrients like nitrogen, phosphorus, potassium, and sulfur. It can improve germination, plant growth, and yield.

- **Improves soil structure**

Vermicompost can enrich soil with microbial biomass and improve root growth and structure.

- **Sustainable**

Vermicomposting is a sustainable way to recycle organic waste.

- **Fast**

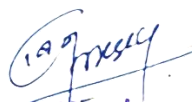
Vermicomposting is a faster way of organic decomposition than other methods because it uses surface-dwelling earthworms.

- **Versatile**

Earthworms can consume many types of organic waste, including kitchen waste, animal waste, agricultural residues, and paper.

There are several methods for vermicomposting, including bin composting, pit composting, and pile composting.



  
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