

SVA Government College, Srikalahasti
Dept. of Chemistry
Best Practices

Composting Garden Waste by Using Waste Decomposition Solution

Executive Summary

This report details the implementation of a waste decomposition initiative at our college, aiming to foster environmental sustainability and education. The initiative focuses on composting organic waste and minimizing waste generation through awareness programs. This green initiative is essential for reducing the college's carbon footprint, promoting a sustainable campus culture, and providing hands-on learning experiences for students.

Introduction

As educational institutions become increasingly aware of their environmental responsibilities, implementing sustainable practices has become paramount. One significant aspect of this endeavor is the management of organic waste, specifically leaves from trees on campus. This report outlines a comprehensive plan for the decomposition of leaf waste at the college, highlighting its benefits and role as a green initiative.



Fig: B.Sc (BZC) students involved in preparation of Waste Decomposer Solution

Background

The college campus, adorned with numerous trees, generates a substantial amount of leaf waste, particularly during the fall season. Traditionally, this waste is either burned or sent to landfills, contributing to pollution and greenhouse gas emissions. To address this, we propose a sustainable approach that not only manages leaf waste but also enriches the campus ecosystem.



Fig: Cleaning of college garden and collecting the Waste



Fig: Layering the waste and sprinkling the Waste decomposer solution

Objectives

Reduce Waste: Minimize the volume of leaf waste sent to landfills.

Promote Sustainability: Demonstrate the college's commitment to environmental stewardship.

Enhance Soil Quality: Utilize decomposed leaves to improve soil health for the campus Botanical Garden.

Educate and Engage: Involve students and staff in sustainable practices and environmental education.



Fig: Dr. M. Sreelatha, Principal & Sri. O P Prasad, In charge Dept. of Botany observing the Preparation of Waste Decomposer Solution

Methodology

The proposed leaf waste decomposition process involves the following steps:

Collection: Leaf waste is collected from various parts of the campus and transported to a designated composting site.

Shredding: Leaves are shredded to accelerate the decomposition process by increasing the surface area for microbial activity.

Application of Decomposer Solution: Shredded leaves are treated with a waste decomposer solution to enhance microbial activity.

Composting: Treated leaves are layered with other organic materials, such as grass clippings and food scraps, to create a balanced compost pile. This pile is turned regularly to ensure adequate aeration.

Monitoring: The compost pile is monitored for temperature, moisture, and pH levels to ensure optimal decomposition conditions.

Utilization: The resulting compost is used as manure for the college garden, providing nutrient-rich soil for plants and trees

Benefits

Environmental Benefits

1. **Reduction in Greenhouse Gases:** Composting organic waste reduces methane emissions from landfills.
2. **Soil Enrichment:** The compost produced is rich in nutrients, enhancing soil fertility and promoting healthy plant growth.
3. **Biodiversity:** Improved soil health supports a diverse range of plant and animal life on campus.



Fig: Layering the waste and sprinkling the Waste decomposer solution

Educational Benefits

1. **Hands-on Learning:** Students gain practical experience in sustainable practices through involvement in the composting process.
2. **Environmental Awareness:** The initiative serves as a living laboratory, raising awareness about waste management and sustainability among the college community.



Fig: Students from IIB.Sc (BZC) Preparing the Waste Decomposer Solution

Economic Benefits

1. **Cost Savings:** Reduced waste disposal costs and lower expenses for purchasing soil amendments.
2. **Resource Efficiency:** Efficient use of organic waste as a valuable resource rather than a disposal problem.



Fig: Dr. P. Satyanarayana Reddy, Dr.A.Ramesh Babu & Sri K. Saivenkatesh demonstrating the preparation of Waste Decomposer Solution to the faculty from GDC(W), Srikalahasti



Fig: Students checking the status of compostin

Implementation Plan

Stakeholder Engagement: Engage students, faculty, and staff through workshops, seminars, and volunteer opportunities.

Infrastructure Development: Set up composting bins and shredding equipment at strategic locations on campus.

Training and Education: Provide training sessions on composting techniques and the benefits of organic waste management.

Monitoring and Evaluation: Establish a team to monitor the composting process and evaluate its impact on waste reduction and soil quality.

Promotion and Awareness: Use campus media and events to promote the initiative and its positive impact on the environment.

Conclusion

The decomposition of leaf waste on the college campus represents a significant step towards sustainability and environmental responsibility. By implementing this green initiative, the college not only reduces its ecological footprint but also enriches the educational experience of its students. This initiative serves as a model for other institutions seeking to integrate sustainable practices into their operations. Through commitment and collective effort, the college can make a meaningful impact on the environment and foster a culture of sustainability.