Project Report
On
Converting Kitchen Waste into Liquid Organic Manure Using Bio-Decomposer Technology

Introduction

In the face of increasing environmental concerns and the need for sustainable waste management solutions, the use of bio-decomposer liquid to convert kitchen waste into liquid organic manure emerges as an innovative and effective approach. This method leverages the natural decomposition process to transform biodegradable kitchen waste, such as vegetable peels and food scraps, into a nutrient-rich liquid fertilizer that can be used to enrich soil in agricultural practices. The process is not only environmentally friendly but also economically beneficial, especially for small households and communities.

The Bio-Decomposer Liquid Process

The bio-decomposer liquid method is designed to be simple and accessible, allowing households to manage their kitchen waste efficiently. The process involves the following steps:

1. Collection of Kitchen Waste: Biodegradable waste, including vegetable peels, fruit scraps, and other organic materials, is collected from the kitchen.

2. Decomposition Container: The collected waste is placed in a container, such as a plastic box or a traditional matka (earthen pot). The container should be sealed properly to prevent pests from entering but should allow for air circulation to aid in the decomposition process.

3. Decomposition Process: The waste undergoes a natural decomposition process, facilitated by the bio-decomposer liquid, which accelerates the breakdown of organic materials. This results in the formation of a potent liquid manure over time (Approx 15 days)

4. Storage and Use: The liquid organic manure is stored in the container until it is ready for use. Before application, it is diluted with water in a 1:20 ratio to create a highly effective organic fertilizer.

Materials Required:

- A plastic box or a traditional matka (earthen pot) that can be sealed and kept in an open space.
- Kitchen waste
- Bio Decomposer

Process Overview

The bio-decomposer liquid process involves the decomposition of kitchen waste into liquid manure through a biological process. The unique aspect of this technique is its simplicity and adaptability. It can be implemented in any household with minimal resources:

Process: The kitchen waste is placed in the container, which is then covered to allow the decomposition process to take place. The container must be kept in an open area to ensure that any odors produced during decomposition are dispersed into the air, minimizing discomfort to sensitive individuals. Although the smell may be unpleasant, it is not harmful to the environment. Over time, the waste breaks down into a nutrient-rich liquid that can be used as organic manure.

Advantages of Liquid Organic Manure

1. Cost-Effective and Accessible: The process requires minimal investment, making it affordable for households. The primary cost is the container, which can be a repurposed plastic box or a matka.

2. Environmentally Friendly: The bio-decomposer liquid process reduces the volume of kitchen waste that would otherwise be sent to landfills. By converting waste into a valuable resource, it helps to minimize the environmental impact of waste disposal.

3. Space-Efficient: This process can be easily implemented in small spaces, making it ideal for urban households with limited outdoor areas.

4. Nutrient-Rich Fertilizer: The resulting liquid manure is rich in nutrients, enhancing soil fertility and promoting healthy plant growth. It can be used in kitchen gardens or larger agricultural settings.

5. Odor Management: While the decomposition process may produce some odors, these are not harmful to the environment. The container should be kept in an open space to allow for odor dispersion, minimizing discomfort for those sensitive to smells.

Application and Impact

The bio-decomposer liquid process is versatile and can be applied in various settings:

- **Household Use:** Households can use liquid manure to nourish their kitchen gardens or indoor plants. For those with limited space, the process offers an opportunity to engage in sustainable gardening practices.

- **Commercial Opportunities:** Households can produce more liquid manure than they need and sell the excess to farmers or other gardeners. This not only generates income but also promotes organic farming practices within the community.

- **Community Impact:** By adopting this method on a larger scale, communities can significantly reduce the burden on local waste management systems. This reduction in waste transportation and processing by local bodies can lead to cost savings and environmental benefits.

Case Study: Pilot Project by Unnat Bharat Abhiyaan Cell, NIIT University

A pilot project was initiated by the Unnat Bharat Abhiyaan (UBA) Cell at NIIT University, Neemrana, to assess the feasibility of this waste management technique. The project has been implemented at a senior secondary government school in Bichpuri, where 20 matkas were distributed to the school community. The initiative was sponsored by WipeHotwire Pvt. Ltd., Neemrana, under its Corporate Social Responsibility (CSR) funding.

Outcomes of the Pilot Project

Positive Reception: The school community, including students and staff, actively participated in the project, demonstrating a strong interest in sustainable waste management practices.

Waste Reduction: The project successfully reduced the amount of kitchen waste being discarded, converting it into valuable liquid manure.

Educational Value: The project served as a practical educational tool, raising awareness about the importance of waste management and the benefits of organic farming.

Future Plan

1. Expansion: NU- UBA will encourage more households and institutions to adopt this process by conducting awareness campaigns and providing initial resources like matkas or plastic containers.

2. Further Studies: Conduct further studies to optimize the process and explore additional uses for liquid manure.

3. Policy Support: We advocate for policies that support micro-level waste management solutions and provide incentives for households that adopt such practices.

Visit and Work Report
Project Title: Pilot Project on Liquid Manure from Kitchen Waste

Conducted by: Unnat Bharat Abhiyaan Cell, NIIT University, Neemrana
Sponsor: WipeHotwire Pvt. Ltd., Neemrana (CSR Funding)
Location: Senior Secondary Government School, Bichpuri
Date of Visit: 31/08/2024

On 31/08/2024, the Unnat Bharat Abhiyaan (UBA) team visited Bichpuri to launch a pilot project focused on converting kitchen waste into organic liquid manure. This initiative, supported by WipeHotwire Pvt. Ltd., involved distributing 20 matkas (clay pots) to selected households. The team provided hands-on training, demonstrating how to use the matkas to decompose waste efficiently. The visit also included an awareness session on the benefits of organic manure, followed by a pledge for cleanliness and sustainable waste management. The community's response was positive, with strong interest in the project. A structured questionnaire revealed that while participants were eager to adopt the process, some concerns about odor and space were noted.

Photographs:


Unnat Bharat Abhiyan
NIIT University, Neemrana
इण्डिया थर्मल इक्युपमेंट (प्रा.) लि.नीमराना


NU
तरल
खाद
WIPE hotwire
Unnat Bharat Abhiyan
Sustainability Club


Candle Making Workshop
under
Unnat Bharat Abhiyan,
NIIT University, Neemrana
GPS Map Camera
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248, Parana Patti, Beechpuri, Fatehpura, Rajasthan 301709, India
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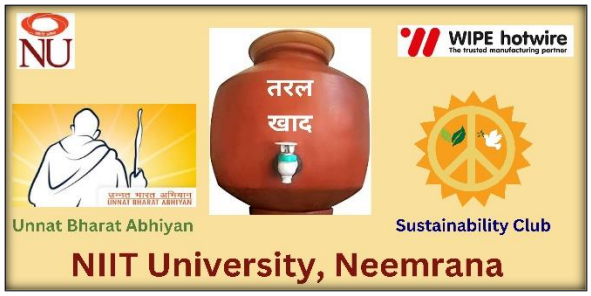
An Oath has been administered by the students in the presence of school principal Mr. Narendra Singh Yadav, Mr. L. M. Mathur, Managing Director, Mrs. Reeta Mathur, Director, Mr. Sanjay Singh, Manager HR, The Wipe Hotwire Private Limited, Dr. Gurendra Nath Bhardwaj, Faculty Coordinator, Mr. Shobhit Verma, student Coordinator, Unnat Bharat Abhiyan, NIIT University, along with volunteer students of NIIT University, Jayant Rana & Mr. Prakash Mali. The report preparation and data collection activities have been executed by Mr. Shobhit Verma.



जैविक अपशिष्ट प्रबंधन प्रतिज्ञा पत्र

प्रतिज्ञा करने वाले का विवरण

पूरा नाम: _____

पता: _____

संपर्क : _____

ईमेल (यदि हो): _____

प्रतिज्ञा:

मैं, यह शपथ लेता / लेती हूँ कि -

- मैं अपने घर, रसोई, या अन्य स्थानों से निकलने वाले जैविक अपशिष्ट (जैसे फल और सब्जियों के छिलके, भोजन के अवशेष) को कचरे के रूप में नहीं फेंकूंगा/फेंकूंगी।
- मैं जैविक अपशिष्ट को उचित रूप से एकत्र करूंगा/करूंगी और इसके लिए उपलब्ध डीकंपोज़र का उपयोग करके तरल खाद (लीक्विड मैन्योर) बनाऊंगा/बनाऊंगी।
- मैं डीकंपोज़र का सही तरीके से उपयोग करूंगा/करूंगी और तरल खाद बनाने की प्रक्रिया का पालन करूंगा/करूंगी।
- मैं इस प्रक्रिया के दौरान स्वच्छता और सुरक्षा का ध्यान रखूंगा/रखूंगी।
- मैं पर्यावरण संरक्षण में अपना योगदान दूंगा/दूंगी और बायोडिग्रेडेबल कचरे के प्रबंधन के महत्व को समझते हुए इसका पालन करूंगा/करूंगी।

मैं अपने परिवार और समुदाय को भी इस प्रक्रिया में शामिल करने के लिए प्रेरित करूंगा / करूंगी।

हस्ताक्षर: _____

दिनांक: _____

स्थान: _____

Conclusion

The bio-decomposer liquid process for kitchen waste management provides a practical and sustainable solution to the challenge of managing organic waste, particularly in urban areas with limited space and resources. By transforming kitchen waste, such as vegetable peels and other biodegradable materials, into organic liquid manure, this approach offers an efficient way to produce a nutrient-rich fertilizer that can significantly benefit agricultural practices when diluted with water in a 1:20 ratio.

This method not only addresses waste management but also supports organic farming and can be implemented easily at the household level. The bio-decomposer process is environmentally friendly, cost-effective, and reduces the burden on local waste management systems, contributing to a cleaner and greener environment.

The pilot project conducted by the Unnat Bharat Abhiyaan Cell at NIIT University in the senior secondary government school in Bichpuri demonstrated the practical benefits of this approach, including waste reduction and the promotion of organic farming. The success of this initiative underscores the potential for broader adoption, suggesting that with ongoing support and regular follow-ups, the bio-decomposer liquid method could significantly transform waste management at the grassroots level, yielding substantial environmental and economic benefits. By expanding the use of this technique, communities can reduce waste, foster sustainable agricultural practices, and enhance environmental quality, ultimately contributing to a healthier, more sustainable society.

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