International Research Journal of Engineering and Technology (IRJET) e-ISSN: 2395-0056
Volume: 07 Issue: 02 | Feb 2020 www.irjet.net p-ISSN: 2395-0072

# "A REVIEW PAPER ON DECOMPOSITION OF FOOD WASTE BY ROTATITNG DRUM METHOD"

**Prof. Shasheen S. Gupta[1], Rajesh D. Bisen[2], Shubham H. Badole[3]Vaibhav Nandagawali[4], Praful Dewalkar[5], Nehal Marathe[6]**

*[1]Asst. Prof. Dept. of Civil Engineering GNIT Nagpur, Maharashtra, India*
*[2,3,4,5]B.E. Scholar, Department of Civil Engineering, Guru Nanak Institute Of Technology, Nagpur, India*

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**Abstract -** *The main purpose of this paper is to reuse of food waste by decomposing by rotating drum method. By adopting this method, we can reuse of waste food as a fertilizer to our gardening by investing less money for one time. Rotating drum method is a technology to process food waste should be easy maintenance, fast, economical, affordable, environmentally, friendly, and socially acceptable. biological decomposition. Biological processes usually take quit a long time (30) days. This study aims to accelerate the process of decomposition of food waste and produced a quality fertilizer product. Bulking agent (bio film), bio activator (micro organism from cassava, and bio drying technology are used to accelerate the decomposition process.*

## 1. INTRODUCTION

This One of the major environmental problems faced by India is solid waste management which is quite inappropriate. According to agriculture ministry about rs 50,000 crore of food waste every year in India. Food waste is not collected properly, especially in small towns and urban areas of the large cities. In many developing and developed country their are municipality having authority to collect, transport and disposal of domestic waste from cities area. This practice is highly in Urban areas and its effect the public health. And also affect the environment.

By taking a problems in mind which faces by town and Urban public, we provides a advance technique to solve their problem by composting the food waste by rotating drum method. The rotary drum provides agitation, aeration and mixing of waste which is for composting. (i.e. food waste, vegetable waste, dry leaves, paper waste, etc.) and giving a proper atmosphere for acceleration of composting process.

An efficient and promising technique in decentralized composting is the rotary drum composter. It is a great idea for smaller community who want a rapid and an enclosed pathogen killing process. There are two main outlooks in the acceleration of the compost process of food waste. The first is that the material is in periodically motion, due to periodically rotation of drum and the composting waste are properly mixed and contact with air. Which help to accelerate composting process under aerobic conditions. And second is when new food waste added in drum then the new food waste is properly mixed with old semi-compost food waste. New food is quickly compost due to present of mesophilic bacteria. And manage the composting time of new food waste.

## 2. LITERATURE REVIEW

Selvam and Rajshekhar, (2002) The research paper about Effects of process conditions on composting efficiency and nitrogen immobilization during composting of manure in a drum composting system. The outher study on Effect of different composting treatment on compost temperature moisture content and GI, Effects of different composting treatment on nitrogen retention, effects of different composting treatment on nitrogen losses, effects of different composting treatments on N balances. and their article in Act horticulture 469(469):89-96.

Smars, S. (2002), He study about Influence of Different Temperature and Aeration Regulation Strategies on Respiration in Composting of Organic Household WasteDoctoral thesis Submitted to Swedish University of Agriculture Sciences, Uppsala, Sweden.

Ajay S. Kalamdhad, Absar A. Kazmi (2009) Department of Civil Engineering, Indian Institute of Technology (IITR), Roorkee, 247667, India. He practicing in the mixture of organic waste and he observed the effects of three different type of waste mixtures of organic waste on composting in a rotary drum method, were examined by measuring changes in biological parameters and physico-chemical.

Wiharyanto Oktiawan (2018) Department of Environmental Engineering, Faculty of Engineering, Diponegoro University, Semarang – Indonesia and he study on Decomposition of food waste using bulking agent and bio-drying technology.

## 3. CONCLUSION

The rotary drum composting process of mixed organic waste yields suitable compost consisting of 2.1% NT and 3.5% total phosphorus within a period of 20 days. During the thermophilic phase, the temperature remained above 55

for a period of two days, satisfying the regularity requirement for the destruction of pathogens. The moisture content reduced from 61% to 43% and the BOD/COD ratio reduced from 0.94 to 0.23 during the total composting period of 20 days the nearly non existing amount of VFA concentration that we saw during the composting process showed complete aerobic condition whilst the composting process.

**REFERENCES**

1) **Selvam and Rajshekhar, (2002)**, " Effects and process conditions of composting efficiency and nitrogen immobilization during composting of manure in a drum composting system". and their article in Acta horticulture 469(469):89-96.

**2) Smars, S. (2002**), "Effect of different temperature and aeriation regulation stategies on respiration in composting of organic waste".

**3) Ajay S. Kalamdhad, Absar A. Kazmi (2009),** The effects of three different mixtures of organic waste on composting in a rotary drum method.

4) **Wiharyanto Oktiawan (2018),** Decomposition of food waste usingbulking agent of bio-drying technology.

"In warm, moist environments with ample amounts of oxygen and organic material available, aerobic microbes flourish and decompose the waste at a faster pace.