

**RESEARCH NOTE:**

## Turninning garbage in to gold : For ecofriendly environment by vermiculture technology

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Industrialization, urbanization and population of our nation is increasing at an alarming rate. Technological development has increased in human impact on the ecosystem but a new technology, aimed at solving the pollution problem being made to develop it. In the field of environmental technology, new method of purification and recirculation of pollutants are being made to change existing technology to reduced pollution, utilize waste material for beneficial purposes and fulfill the need of increasing population.

In one hand, we concern about protecting human health and preventing the quality of the environment made. Every day tones of solid waste is generated in India, most of which entered into the river, streams and roadside, they further contaminate the environment. So effective waste management is the need of today.

Recycling is the best way of the disposal of organic waste. Raddy and Rao (1998) estimated that about 377 million tons of crop residues are available in the country. Sidhu (1998) surveyed among the farmers of the Punjab and estimated that out of 28.8 million tons of wheat and paddy straw produced annually, about 17.0 million ton wheat and paddy straw were burned by the farmers, sugarcane trash is either burnt in the field or used as fuel as it is hard to decompose. Chinnamani (1992) reported that burning of agricultural waste and dung cake produced higher quantities of CO (20-114gm/kg) and total suspended particles (2.1-11.4gm/kg) as smoke in comparison to burning of fuel wood (13-68gmCO/kg and 1.1 to 3.8gm TSP/kg), creating greater environmental pollution.

The practice of burning also causes a great loss of organic carbon and some nutrient like N, S etc., result in the loss of the soil fertility. Nutrient worth Rs. 233crore are destroyed in Punjab every year due to burning of rice

(Anonymous, 1999).

Dumping of organic wastes pose serious environmental problem as it stinks, helps in the multiplication of harmful microorganism, flies and mosquitoes. These microorganisms pollute the environment and spread diseases like tuberculosis, cholera, malaria etc. so composting on the other hand is a safe nonpolluting and microbiological method for disposal and recycle of biodegradable waste by converting them in to compost, a balance organic fertilizer(Gaur, 1987). A large amount of the nutrient removed by the crops can be safely returned to the soil by vermicomposting.

**Classification of the waste :**

- Domestic waste (nontoxic waste)
- Industrial waste (toxic / hazardous waste)
- Hospital waste (pathogenic waste)
- Agriculture waste (nontoxic waste)
- Animal waste (nontoxic waste or toxic waste)

On the other hand to fulfill the need of growing population, it essential to increase agriculture production with the same rate. In modern agriculture, chemicals (pesticides, fertilizers) are being used for increasing production.

**Chemical based agriculture is not sustainable because of the following reasons:**

- Uses of chemicals leads to degradation of soil.
- Surface and ground water pollution.
- Chemicals (pesticides and fertilizers) are costly.
- Chemically treated soil will create water and environmental pollution.

Vermiculture, vermicomposting, vermicasting and vermiwash are fast becoming familiar terms in the farming as well as organic

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