AJES ASIAN JOURNAL OF ENVIRONMENTAL SCIENCE ■ VOLUME 7 | ISSUE 2 | DECEMBER, 2012 | 251-254

A CASE STUDY

Recycling of organic wastes in agriculture through vermicompost and its significance on environment

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Article Chronicle :
Received :
13.08.2012;
Accepted :
24.10.2012

SUMMARY : The key role of vermicompost in improving physical properties such as yields.aggregate formation, bulk density, porosity and hydraulic conductivity is well known. Although many of these are interrelated. There are about 3000 species of earthworm throughout the world of which about 509 are available in India. Bouch (1997) classified these worms into 3 major categories *viz.*, epigeics, endogeic forms live deep inside the soil. It has been observed that vermicomposts exhibit considerably higher concentration of various elements, as compared the ordinary composts made from similar organic materials. Vermicompost is a peat like material with excellent structure, porosity, aeration, drainage and moisture holding capacity. The study showed vermicompost, applied same does as ordinary compost alone with different rules of phosphatic fertilization to increase the availability of phosphorus in such soils in the manner.

HOW TO CITE THIS ARTICLE : Mondal, Debabrata and Sinha, Subir Kumar (2012). Recycling of organic wastes in agriculture through vermicompost and its significance on environment. *Asian J. Environ. Sci.,* **7** (2): 251-254.

Key Words :
Vermicompost, Organic waste, agriculture, Compost, Earth worms

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Spectacular achievement has been made in India in the sector of food grain production and much of this success can be attributed towards increased use of inorganic fertilizers for improving the productivity levels of agricultural lands of the country. However, owing to long term and indiscriminate uses of inorganic fertilizers for maximizing the agricultural production, the soil under such condition of fertilization have started showing symptom gradual degradation and rate of responses to fertilizer application are showing trend to decline, this is however not an isolated phenomenon for our country alone and this problem has now become a global concern. Concept of integrated plant nutrient system (IPNS) involving large scale substitution of inorganic fertilizers by organic manures has come up as possible means of solution of this problem. Vermicomposting is a new concept of compost preparation with the help of earthworm and may prove itself to be highly useful in this concept. Not only the vermicomposts exhibit much higher amount of material elements in comparison to traditional composts prepared from similar organic materials but also they contain some hormones and enzymes which also help the well beings of the soil and crop. In addition, these earthworms tend to bring even more resistant organic materials under composting in comparison to the traditional methods of composting. Some relevant aspects of vermicomposting have been discussed in this communication.

Concept of vermicomposting:

Importance of earthworms in improving productivity of soils is known since long. While Greek philosopher Aristotle referred to earthworms as "the intestine fertility'', status of various soil. Since then large volumes of work have been carried out to study the uses of earthworm population of soils for increasing agricultural production. There are about 3000 species of earthworm throughout the world of which about 509 are available in India. Bouch (1997) classified these worms into 3 major categories *viz.*, epigeics, endogeic forms live deep inside the soil. Anecics, on other hand, live in the soil but come to the soil surface time to time for the purpose of execration. Of these 3 groups,