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Vermicompost and vegetable production

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Owing to the great awareness for health concerns among the consumers, it is inevitable to go for organic production techniques for different crops. Among the different organic practices and inputs available for farming, vermicompost is valued high in recent agriculture, since it has no residual effect, besides supplying nutrients required for growth and development of various crops. Further it is becoming popular among the farming community since it generates sizeable income. It has multiple benefits such as converting wastes into manures, making soil healthy, eliminating dependence of chemicals, creating employment to rural youth etc., Application of vermicompost along with organic manures enhanced earliness in flowering, increased fruit size and number of fruits and then resulted in higher yields in vegetables like tomato, chilli, cucumber, cluster bean etc.

Organic manures play a vital role in improving the soil fertility and productivity of soils which has been acknowledged for generations. In recent years, organic farming is becoming more popular in India because people are now aware about the disastrous side effects caused by chemical farming on health and environment and now prefer organically grown foods. According to Mohd Rafi *et al.* (2002) recent trends in farming with organic inputs, this has an inherent claim of improvement in quality and taste of the produce. Earth worms are the friends of farmers. They not only aerate the soil, but also help in producing vermicompost, a valuable resource for improving soil fertility. Vermicompost is becoming increasingly popular among farmers, as a source of soil fertility and also as a source of income generation. Vermi-biotechnology is an eco-friendly, socially sound and economically viable innovative technology to manage the organic waste resources in low capital input basis. It has multiple benefits, can convert wastes into fertilizers; make soil healthy; can eliminate the dependence on chemicals; can bring waste lands under cultivation; create employment to millions of youth, can feed hungry citizens and make a country green and prosperous in a span of just a few years.

The recycling of organic wastes through vermicomposting helps to minimize environmental pollution and increase soil fertility for sustainable agriculture. Vermicompost is rich in plant nutrients and it has been used in vegetable crops like tomato, carrot and brinjal (Kale *et al*., 1991).

Vermicomposting process :

Earth worms formed water stable soil aggregates which reduced soil erosion. The soil particles in worm cast were found stabilized by polysaccharide gums produced by bacteria present in the intestine of earthworms, there by enhancing the entry of water into the soil. Increased levels of readily available nitrogen in the presence of either dead or live worms. A tonne of earth worms produces up to one tones of agricultural wastes are vermicomposted in to 200 tonnes of granular manure per year (Zhao and Huang, 1991). Vermicomposting is basically a process of composting with earth worms (*Eisenia foetida; Eudrilus eugeniae; Perionyx excavatus*). Vermicomposts are stabilized, thermophilic materials produced from organic wastes by interactions between earth worms and microorganisms. Vermicomposts are finely divided peat like materials with high porosity, aeration, drainage, water