THE HINDU

Vermicompost: a down-to-earth solution to cut input costs

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Simple idea:Selecting the right kind of earthworms for making compost is important: -Photo: S.Siva Saravanan

Agriculture based only on chemical fertilizers and other chemical inputs is not desirable because constant use of such inputs causes soil infertility and affects productivity. “Compared with 10-15 years back, many farmers are now becoming increasingly aware about the harmful effect of chemical use to grow their crops, and are moving towards alternative sustainable solutions.

Healthy soil

“Soils should be alive and home to millions of beneficial bacteria and other micro organisms to make them healthy and for crops to yield well. The soil must be manured in such a way that the activities of beneficial soil organisms necessary for recycling plant nutrients and producing humus are not inhibited,” says Dr. G.Rajaraman, Senior Research Fellow, Directorate of Natural Resource Management,Tamil Nadu Agricultural University, Coimbatore. The University also provides training to interested farmers in selecting the right kind of worms and also in erecting compost sheds for manure production. The first step for vermicomposting is selection of right kinds of earthworms. Four varieties of earthworms are available in India and commonly used for composting. These worms are called ‘manure worms.’ They can be grown on animal dung, poultry droppings, vegetable and other kinds of biodegradable wastes. The worm-casts or excretions of these worms make up the much needed organic manure, according to him. One worm weighs about 0.5-0.6 grams and would consume wastes almost equal to its body weight producing casts of about the same weight in a day. If one million worms exist in an acre, the casts they produce in that area would be about 500 kg a day per acre that is approximately 200 tonnes of manure a year.

Essential nutrients

The worm casts contain all the essential nutrients and good amounts of organic matter and growth regulators which make the soil productive.“There is no fixed model or standard procedure for manufacturing vermicompost. Any wooden, plastic, card board or cement container of any size can be used for this. All one requires is the interest and drive to make and use it,” says Dr. Rajaraman. Dried cattle, sheep, horse, pig dungs or poultry droppings vegetable wastes (shredded into small pieces) form ideal food for the worms. Cattle dung mixed with water can be sprinkled if available. Wheat bran, grain bran and vegetable wastes, when added to dung in 1:1 ratio, enhances the quality of the compost production. The feed must be placed uniformly in a layer on the culture bed and replenished as and when it disappears from the surface. The composting process would be over in 45- 60 days. We can see the change of the compost material into dark brown coffee powder like colour. The compost material will be friable when we press it between our fingers. When the compost is ready, watering must be stopped for 2-3 days, and the entire worms move towards the bottom where some moisture would still be available.

Spreading awareness

“Our University has been a playing a important role to spread awareness about the importance of using vermicompost for cultivation. Today we have been effectively able to encourage several hundred farmers in Thondamuthur, Udumalapettai, Nagapattinam, Annur and Palani areas in and around Coimbatore to take up vermicompost manufacture and application. Most of the farmers have 8- 10 acres and grow a variety of crops like bhendi, chillies, tomatoes, plantain and flowers. Some years back these farmers used only inorganic fertilizers as inputs and spent more than Rs.2,000-3,5000 as input cost for their crops.“But today they are all manufacturing their own compost and using it and have been able to save a considerable amount on their input cost,” explains Dr. Rajaraman.

Seeing is believing

And adds, “Initially these farmers did not accept the idea that mere application of vermicompost could hep them cut input cost and help get a better yield. We made them interact with a model farmer from Pullavarayankudikadu in Tiruvarur district who moved into sustainable farming from inorganic practices. The farmer convinced others to take up vermicompost production and application as he is able to get a good yield from his seven acres in which he grows a variety of crops.”

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