Using of Vermicompost

- ✓ Sprinkle into a seed row when planting
- ✓ When transplanting, add a handful of vermicompost to the hole.
- ✓ Use as a top-dressing or mulch around the base of plants
- ✓ Mix half and half with potting soil for your houseplants

Nutrient Analysis of Vermicompost

Parameters	Quantity
pH	6.8-7.5
OC%	9.0-17.00
OM%	15.00-22.00
C/N ration	9.5-12.0
Total Nitrogen (%)	0.5-1.5
Available N (%)	0.4-1.2
Available P (%)	0.1-0.3
Available K (%)	0.15-0.6
Ca (%)	0.17
Mg (%)	0.06

Process of vermicomposting

- ➢ Vermicomposting unit should be done in a cool, moist and shady site.
- ➢ Cow dung and chopped dried leafy materials are mixed in the proportion of 3: 1 and are kept for partial decomposition for 15 – 20 days.
- ➢ A layer of 15-20cm of chopped dried leaves/grasses should be kept as bedding material at the bottom of the bed.
- ➢ Beds of partially decomposed material of size 6x2x2 feet should be made.
- ➢ Each bed should contain 1.5-2.0sq of raw material.
- ➢ Red earthworm (1500-2000) should be released on the upper layer of bed.
- ➢ Water should be sprinkled with can immediately after the release of worms.
- ➢ Beds should be kept moist by sprinkling of water (daily) and by covering with gunny bags/polythene.
- ➢ Bed should be turned once after 30 days for maintaining aeration and for proper decomposition.
- ➢ Compost gets ready in 45-50 days.
- ➢ The finished product is 3/4th of the raw materials used.

ENVIS CENTRE ON ENVIRONMENTAL BIOTECHNOLOGY

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GOVERNMENT OF INDIA

Vermicomposting

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VERMICOMPOST

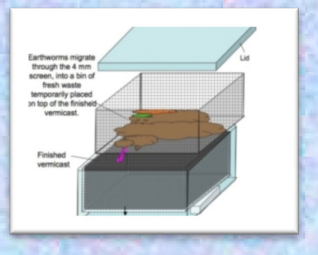
Vermicomposting is the process of producing organic fertilizer (vermicompost) using agricultural wastes through the digestive action of earthworms. It is a promising technique that has shown its potential in certain challenging areas like augmentation of food production, waste recycling and management of solid wastes etc. It helps to avoid the environmental pollution and expenditure of resources to treat the organic waste.

Vermicompost improves soil texture and enhances water-holding capacity of the soil. It may be low in NPK but contains essential nutrient (*e.g.* calcium, magnesium, manganese, copper, iron and zinc) not found in inorganic fertilizers. Moreover, it has microbial activities that promote plant health and pest/disease resistance. With the abundant source o f material in farms, vermicompost can help protect the environment, promote and sustain soil productivity and generate livelihood opportunities for rural families

What You Will Need...

1. Container

Wooden and plastic containers both work but should have holes drilled in the sides and bottom for aeration and drainage.



2. Worms

There are different species of earthworms *viz*. *Eisenia foetida* (Red earthworm), *Eudrilus eugeniae* (night crawler), *Perionyx excavatus* etc. Red earthworm is preferred because of its high multiplication rate and thereby converts the organic matter into vermicompost, Within 45-50 days. Since it is a surface feeder it converts organic materials into vermicompost from top.

3. Bedding

The following materials make ideal bedding:

- ✓ Shredded newspaper
- ✓ Shredded cardboard
- ✓ Shredded fall leaves
- ✓ Chopped straw
- ✓ Dried grass clippings
- ✓ Peat moss
- ✓ Add a couple of handfuls of sand or soil to provide your worms with grit for their digestive systems.

4. Care and Maintenance of Beds

- ✓ Water the bed regularly to maintain the moisture content of the pile (at least 60%).
- ✓ Clean the surrounding area regularly and check the presence of natural enemies of earthworms like chicken, birds, lizards, toads, ants, beetles and centipedes, etc. Nets maybe used to enclose the area.

5. Food Waste

Feed your worms the same kitchen waste that you would add to your outside compost heap. Finely chopped food will be broken down more quickly than large chunks. Do not add meat, fish, dairy products, or fats. Citrus fruit peels take a long time to break down so add them sparingly.

Harvesting of Vermicompost

Worms convert waste into vermicompost within 45 days. The compost is ready to be harvested.