BURHANI FOUNDATION
(INDIA)

TIPS TO SET UP A COMPOSTING UNIT AT HOME

Take a container... any shape any size.... Can be a pot, a crate, or just place a few used tyres one above the other.... The crates and pots should have outlets for water to drain, as water stagnation can be bad for composting and the unit will start smelling.

First into the container put small pieces of gravel or small pebbles or stones, to a height of about an inch, followed by a thin layer of sand. On top of this, please add about 3 inches lof composted material as bedding for the worms. This could be composted leaves from the garden, or composted dung from the farm. Leave for a day after moistening it. The next day introduce a few earthworms into it. Keep the soil covered by a small piece of jute (gunny) or cotton cloth to retain moisture. Leave undisturbed for a week or ten days, but do keep the unit moist.

The unit is now ready, Start adding vegetable clippings, but remember to shred into small pieces before adding to the unit. Do not overload the unit. For example a simple container like a pot can receive about 100 to 150 grams of waste per day. Remember to lift the cloth, spread the waste uniformly. Initially avoid non-vegetarian waste till you get accustomed to handling the composting unit. Also avoid heavy peels of fruits like lemon and orange.

If you wish you can have the container covered with a mesh or a cloth to distract flies, if any. If maintained properly there will be no bad odour or any problem to the unit.

Some points to remember :

WHAT IS VERMICOMPOST?

Vermicompost refers to organic manure produced by earthworms. It is a mixture of worm castings (faecal excretions), organic material including humus, live earthworms, their cocoons and other organisms. Vermicomposting is an appropriate cost effective and efficient recycling technique for the disposal of non-toxic solid and

liquid organic wastes.

WHAT IS VERMICULTUE?

Vermiculture can be defined as culture as culture of earthworms. Earthworms are divided into two groups: humus formers and humus feeders. The first group dwell on the surface and feed on nearly 90% organic materials. They adre generally darker in colour, and are also called epigeic or detritivorous earthworms. It is these worms that are generally harnessed for vermicomposting. The second group, the humus feeders, are burrowing worms some of which are useful in both compost preparation as well as making the soil porous. Generally the burrowers lhelp in mixing and distributing humus through the soil.

It has been prove that earthworms can degrade organic wastes speedily and efficiently. However, to increase the efficiency of vermicomposting, care should be taken to see that worms thrive well on organic matter, breed faster adapting to moisture and climatic fluctuations. The most beneficial featurde of vermicomposting is that in eliminates foul smell of decaying organic wastes, as it is a fully aerobic system. The concept of vermiculture became well known in the 50s of this century when facilities were set up in industrialisea countries of Western Europe for the mass breeding of earthworms. Subsequently, USA, England and France conducted several experiments related to vermiculture technology for efficient disposal of orgasnc wastes.

HOW DOES VERMICULTURE WORK?

Earthworms feed on organic waste, consuming two to five times their body weight. They use a relatively small amount of their intake for their growth and excrete the mucus coated undigested matter as vermicasts. Vermicasts consist of organic matter that has undergone physical and chemical breakdown through the activity of the muscular gizzard that grinds the material. The nutrients present in the vermicasts are readily soluble in water for uptake by plants. Vermicast is a rich source of macro and micronutrients, vitamins, enzymes, antibiotics, growth hormones and microflora.

CAN I MAKE COMPOST WITHOUT EARTHWORMS?

Yes! But vermicompost is considered superior to other types of compost because of its quality. Moreover earthworms ingest litter, dung and other organic matter and grind it into fine particles, thereby increasing the surface area and promoting faster decomposition. The material passes through the body of the earthworm to produce vermicast. Soils with vermicasts have roughly 100 times more bacteria than soil without worms. Moreover plant growth promoting substances have been reported to be present in vermicasts.

MY WORMS HAVEN'T EATEN THE WASTE EVEN THOUGH I STARTED MY WORM FARM WEEKS AGO.

When first starting a new worm farm the worms need time to get used to their new

surroundings and usually start eating the original bedding material first but then soon move up to the new food source. Add just enough waste first until you can see worms moving around in it, then you can add more from then onwards.

MY WORMS ARE TRYING TO ESCAPE, WHAT AM I DOING WRONG.

Worms are very specific about what conditions they live in and if they don't like them they will try to leave in masse. If this is happening you must go back and check on the things that may be forcing them to want to leave. These include what you are feeding them, is the bedding material too moist, the pH level of the bedding material, etc. These problems are usually fixed quickly and easily and without losing too many worms.

I HAVE ANTS IN MY WORM BIN HOW CAN I GET RID OF THEM.

Having ants moving into your worm bin usually means that your bedding material is not moist enough. To fix this problem gently turn the bedding material with a garden fork and water the bedding material remembering not to over water. Also if possible rest the legs of your worm bin in a container of water so as to discourage the ants from returning. Alternately you can make trnches on the upper crest of the tanks and keep them filled with water.

LITTLE FLIES HAVE INVADED MY WORM BIN, HOW CAN I GET RID OF THEM?

These are little fruit flies and are usually there because of any fruit and vegetable waste put into the bin. To get rid of them or a least control them bury the waste into the bedding material a little at least until it is covered and cover it with moist newspaper or jute bag. You may also sprinkle soil on the waste. Or just leave it covered with a mesh.

MY WORM BIN HAS BECOME SMELLY AND THE WORMS HAVEN'T EATEN ALL THE FOOD. WHAT HAVE I DONE WRONG AND HOW CAN I FIX IT.

This is a sign that you have over fed your worms and they cannot keep up with the amount of food that is being added into the worm bin. To fix this stop feeding them and remove any of the uneaten food and then gently turn over the bedding material with a garden fork so as to aerate the bedding material. If acidic, add a handful of lime to help correct the pH levels and then start feeding the worms again, only little amounts at first so you can get an idea of how much they can consume so as not to over feed them again.

WHILST I AM AWAY ON HOLIDAYS WILL MY WORMS STARVE TO DEATH?

No, they should be OK but try and avoid adding any fresh food material and cover the bedding surface with moist newspaper or Hessian (gunny bags) so as to keep the bedding material from drying out. You may also leave mud pots containing water covered with lids, half buried into the pits/tanks. Even if the surrounding material dries

up, the earthworms may move and stay beneath these moist pots. If you are planning to go away for an extended time (month or more) you may want to get a friend or neighbour to take over looking after your worms for the time you are away.

IF I CUT A WORM IN HALF WILL I HAVE TWO WORMS?

Bad news and that is NO, so be careful when you are turning your bedding over so as not to cut any worms in felf.

HOW TO COLLECT NATIVE EARTHWORMS?

Identify worm-inhabited soils marked by visible earthworm castings on the soil surface is. Dissolve about 500gm jaggery (native sugar) and 500gm fresh cattle dung in 20 litres of water. Sprinkle on an area 1m X 1m. Cover with straw, leave cattle dung lumps and cover with an old gunny bag. Keep watering for about 20 to 30 days. A combination of epigeic and anecic native worms will aggregate here that could be collected and used.

WHEN IS THE COMPOST REDY?

The compost is ready when the material is maderately loose and crumbly and the colour of the compost is dark brown. It will be black, granular, lighweight and humus-rich. To facilitate separating the worms from the compost, stop watering two to three days before emptying the beds. This will force about 80 per cent of the worms to the bottom of the bed. The rest of the worms can be removed by hand, and are ready to be transferred into the next round of compost making. The vermicompost is then ready for application.

The smell is earth-like. Any bad odour is a sign that fermentation has not reached its final goal and that the bacterial processes are still going on.

Those of you who have made compost in tyres and do have space, can plant there saplings in the tyres once the compost is half ready and set new units.

Wish you all the best and **HAPPY WORMING.**

Come let us REWORM THE WORLD for EARTH'S SAKE

Burhani Foundation (India)
Amatullah Manzil, 2nd floor, Bazargate Street, Fort, Mumbai -400 001.
Tel; 22678480 Fax 22678480
Websites; www.burhani.org/www.burhani.com
Email; mail@burhani.org/bfi52@yahoo.co.in