

DOWN to EARTH



Founder President of Eco Friendly Volunteers (ECO-V), Kanchana Weerakoon



Earthworm in Weerakoon's hands

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In order to appreciate the beauty of earthworms you need to understand how precious black gold is. Earthworms needed to be treated with love and care. They are a wonderful creation of nature. Green Thumbs speak to Founder President of Eco Friendly Volunteers (ECO-V), Kanchana Weerakoon on worm farming. Wormy farming is simply, breeding worms on commercial scale for different purpose such as for fisheries, for zoo animal feeds and of course for agriculture. Red Wigglers, Lob worms and Meal Worms are some commonly used worms in Wormy farming. Red Wigglers and Lob worms are the main species used for making wormy compost. They are commonly known as Earth Worms. Meal worm is the larval stage of Mealworm Beetle also called as Darkling Beetle. It is mainly used as zoo animals' feed.

Worms are also essential when it comes to home gardening.

"When it comes to vermicomposting on commercial scale or small scale vermiculture is very important as it will be the key factor for organic agriculture. The worms used in vermiculture for vermicomposting are called as Earth Worms. When a particular place is free of chemicals, not too dried and full of natural organic matter we can easily find these Earth Worms. Red Wigglers are small, thin and red Earthworms. Lob worms are large fat long worms. They are the most common species we can use in Sri Lanka for making Vermicompost," said Weerakoon.

The bigger ones usually live in deeper layers of soil as they prefer to dig deep. The red worms are surface living ones and they can be easily found in favorable soil. If you have a nutrient rich soil in your garden with some fallen banana stems or cow dung, or a nice composting area you will definitely see the red Earth worms in lumps!

"Of course you can check whether they are present in your soil. Place fresh cow dung on the ground and check after about 3-4 days by lifting the cow dung. If they are there, they will be in the cow dung. Repeat this in several spots and check. If that does not work and you cannot find them, then you need to source them from outside. You can ask someone to give you some Earth Worms. We do have a small Worm farm based at our Metta Garden in Boralesgamuwa. We have shared them with some farmers in Jaffna, Tangalle and in Colombo who told us that they did not have earthworms in their farms or gardens."

But what are the conditions necessary for worm farming and how do you prepare these conditions?

"You can start a worm farm in containers. This way you can harvest the wormy wash which is one of the most nutritious water for your farms or home garden plants. If you have a large garden you can devote about 5 feet x 5 feet area for a worm farm. To have a very successful worm farm the best input is fresh cow dung. But we have experimented with fresh fruit and fresh vegetables too. That



Weerakoon's three bins she uses for worm composting and the black gold that she harvests



is also a good way to start a worm farm," pointed out Weerakoon.

Is worm farming dependent on the size of the home garden and the plants you wish to grow or plan on growing? (fruits, vegetables or flowers)?

"You can have a small container as a worm farm if you don't have much space. Or you can have an area of 10 square meters if you have larger farm and enough organic materials to feed them. In Delhi, we have organic farms with many cattle in them. So they only use cow dung made into wormy compost with all other organic material available and add to the vegetables and fruit plants," added Weerakoon.

In order to obtain the precious black gold,



you need to protect earthworms from the forces of nature and animals.

"Mainly too much water/rain or too much sun will kill them. Both have to be balanced. Many insectivore birds and mongooses will attack your vermicomposting area. So, you must keep it covered. Also please don't add any citrus peels as their food, because it would be too acidic for them. In my experience, they usually love banana and papaya other than cow dung," she said.

Black Gold, the ultimate prize! But how do worms actually recycle organic matter? What is the process involved?

"Simply the worms eat organic matter and their digested form comes as excreta. It is usually dark brown or black in color and we call it Black Gold. It is naturally rich in all nutrients and beneficial microbes. It is better not to add any cooked food for them (That can be added to the compost bin). Any raw left over or rotten fruits, vegetables, any garden matter like banana leaves, banana stems, straw, fallen leaves, cut grass or anything natural is good. Don't forget to

sprinkle water over this organic matter as that will help worms to stay wet. But over watering will kill the worms as they breathe through skin. They will eat all this and will give us what we call wormy compost or 'Black Gold,' explained Weerakoon.

He advice is not to feel "Yucky". Anyone who does not feel "Yucky" for Earth Worms can definitely start a Vermicomposting unit or area. You can start in a barrel or on ground.

"As I said if you plan to harvest 'Wormy-wash' then start in a barrel with a tap in the bottom. It's easy to prepare the barrel with few layers of small stones, pebbles, sand, organic matter and then on the top layer place the Red Wiggle worms (around 25 of them) and their feeding material. You have to hang a water dripping basket on top of this barrel. This will help you to get your Wormy wash which comes through all the best poop that Earth worms excrete after eating all organic matter. We call them Worm Casts. The water dripping from above will get cleansed going through the different layers of rocks and sand and will be gold in color. This is the best nutrient for plants. You can easily find YouTube videos about how to make your own Vermicomposting unit at home. If anyone is interested they can write to me and I will direct them (kanchanawr@gmail.com)"

Wormy wash and Vermicompost is commercially available in India. It can be an income generating avenue if you do it properly, which is not very hard. We can collect all the rotten fruit and vegetables from our weekly fairs (Sathipola) and start vermicomposting and making wormy wash to provide the best fertilizer for organic movement in Sri Lanka.

Green gains in small spaces

Gardening, as a hobby, is a slippery slope. One moment, you are nursing an easy-to-care-for succulent and the second, you are addressing an entire mini-forest by assigned names. But when you live in a metropolitan city of nearly five million people — and just as many buildings to accommodate them — there is little space for this plant paradise. This, however, has not stopped Chennaiites from making the most of the limited spaces available to them, even if it is confined to 150 sqft of tiny balconies, as in the case of Jaishree Sambandan.

Introduced to gardening as a child by her grandmother, the Thiruvannimiyur resident was used to the comforts

of an independent home. But, as she grew older and the houses grew narrower, time became a hurdle for her. It was only earlier this year, when her family was affected by Covid that she got back to business; this time with small balconies as a canvas. Modern problems required modern solutions for her growing collection of monstera, aglaonema, and ferns. "I try to club different types of plants in each corner because each variety requires a distinct level of water and humidity. This arrangement makes them easier to handle and look more full. For example, I have about 8-10 varieties of ferns in one corner since they need less sunlight in comparison to the others," says Jaishree.

To create more space on the ground, she has invested in railing planters — available in various lengths — that conveniently hook on to the balcony rails and allow her to store diverse pots or soil for complementary plants. The same can be hooked away from the balcony or terrace, as well, she adds. Furthermore, hanging pots let her store turtle vines overhead and a wooden planter attached to the wall extends them across the edge. By making use of vertical spaces and off-the-ground infrastructure, Jaishree managed to enlarge the area for other uses.

Innovative methods

These tips may be ideal for growing vines, herbs and other foliage plants, but the same cannot be applied by vegetable growers such as organic gardener Anju Agarwal, who has her system suited to her plants' spatial needs. Growing up in a large bungalow in Mumbai, Anju too was accustomed to large front yards and backyards. But her shift to Chennai after marriage, shrunk her garden size to a 1,500 sqft terrace. Eventually, she had to find a way to introduce new plants to the already gravid gourds, cauliflower, cabbages, muskmelons, beet-roots, beans, carrots, mint and more that line her garden. One of which was utilising grow bags. "In a four-by-eight-sized grow bag, you can plant several companion plants and eliminate the need to occupy the space multiple pots would," she explains. You can even do so in a rice sack, she adds.

But, if that is not sturdy enough for you, you might want to try a fridge box, as suggested by Tirupur's Priya Rajanarayanan. "It's called the five-layer system; intercrop-

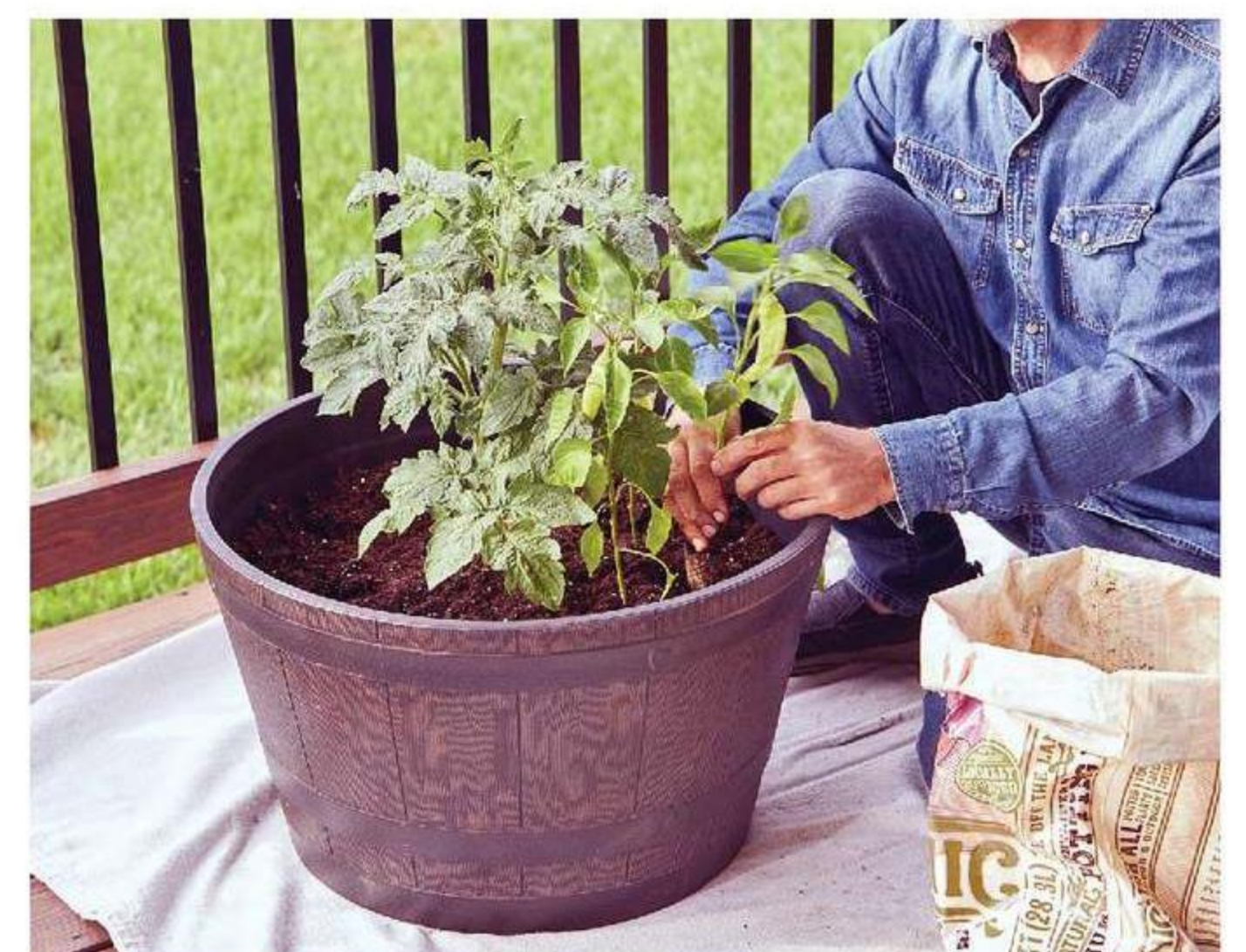
ping. You can do this even with saris, car tyres and other creative storage without spending money. First, you grow a tree (like Moringa), then, a creeper that can climb over it, followed by mid-sized plants like brinjal or tomato, a ground-level plant (say, coriander, chillies or mint) and finally, a root vegetable (beetroot, radish, turmeric)," she shares.

Since each of these types has a different root structure and growth, it prevents them from fighting for nutrients, and allows live mulching that decreases erosion and controls the temperature of soil, and reduces runoff water. To better utilise the area and create a gradient of sunlight on soil, she recommends a kottarapandal — mimicking a tent without a tarpaulin — onto which the creepers can slither. Then, you can arrange the plants needing less sunlight in the dancing shadow and the rest in the remaining space.

An advocate of preserving heirloom seeds, Priya learned the tricks of the trade from a trash can! Her understanding of utilising waste and the importance of native vegetables contributes to her knowledge of maximising space. "At one time, I sowed only 30 varieties of, say, brinjal and only one plant of every type to maintain an assortment. The remaining 70 or so is identified with dates and stored in the fridge," adds the voice behind YouTube channel Seed Island, which offers details on gardening and seeds.

From deserts to the terrace

But it is the desert-oriented plants that are taking the high ground, literally. Low maintenance and easy-to-arrange, desert-oriented plants and succulents can be stacked on a rack for minimal area consumption, says



gardener Sai Krishnan, who grows over 100 varieties of cacti, bonsais, succulents, and euphorbias on his 2,000 sqft terrace. "You have to make sure they have indirect sunlight. You can construct a makeshift shed with bamboo sticks and shadow nets or invest in polycarbonate sheets for the same. You can use the vertical space to your advantage as the plants do not grow too tall," notes Sai. In fact, the pups (new plants) emerge out of the roots of the plants, taking up horizontal space, he mentions, adding that a good pot with a decent diameter is necessary. And don't worry about overcrowding; they like the humidity!

A shed has been a blessing for Abitha S as well, whose terrace garden is divided into sections of sunlight and shade to accommodate the heat-loving flowering plants and the contrasting crotons. Whether it is foliage, vegetables, desert-oriented plants or flow-

ers, sunlight seems to be the omnipresent factor to consider. According to Abitha, the best outcome for your terrace garden is only possible by understanding the placement of sunlight throughout the day. "I have jasmine, hibiscus, bougainvillea, rose, bluebell, and more. When it comes to flowers, it's important to place them according to the sunlight they need and not move them. Ensure that you have enough space in your pot to keep the plant healthy for the next five years. This will maximise the output since plants don't like to be moved," she notes.

As gardening gains popularity and plants make their way into homes — whether for functional or aesthetic purposes — we must find a way to share our space with nature, but that doesn't mean we can't be clever about it.

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