MY CIRCULAR ROAD

Worms farm in Podgorica

They are originally from distant California, USA and have been living and working in Montenegro for 40 years without passports and work permits. Scientists from the University of California created a hybrid worm in 1957, hence the name for these "machines" for recycling organic waste. The notion that the environment in which we live provides so many opportunities and even profits from organic waste comes to many as foreign. Today, I am happy to bring people back to the movie Slumdog Millionaire, and that in 2022, that mud is now a waste for millionaires, organic if you ask me.

The average resident of Montenegro generates 800gr of municipal waste and 360gr of organic waste per day. And leave it as a tradition and legacy from generation to generation to those who will come after us. Let them take care of him. I didn't like it and since 2005 I have been doing everything in my power to change that with California earthworms. This worm is able to eat organic waste daily, no matter how heavy it is. You have heard well that the invertebrate helps the vertebrate to fight its waste. California earthworms reproduce 6 times faster than earthworms and their population doubles every three months. They contain 61.3% protein, 62% veal on the Michel scale, adult worms are 10 cm long and have strong muscle structures ideal for fishing bait.



Our 300m² urban farm is guided by the principles of circular economy. As a building material we use pallets, old windows, bathtubs, carpets and paths. Our organic household waste ends up on the farm. It is passed on to valuable chickens together with cut grass and cardboard. In that way, we provided food for the chickens. We pass on the fact that the chickens are not processed with burnt manure by worms that make fertilizer out of it. Everything that we throw away as waste after consumption in households, these worms adore. Thus, their "menu" will include apple waste, banana peel, coffee grounds, egg peel, leaves, ground branches, but also other biowaste, such as cardboard or newspapers.

The perfect fertilizer, as they often call earthworms, gave us the opportunity to get healthy and quality food on the farm, even when the daily temperatures are close to 50C. With its granular structure, it retains moisture 6 times better and thus helps plants to overcome high temperatures. That is how we managed to grow wild strawberries in Podgorica, which we had never been able to do before using earthworms.

The earthworm fertilizer allows you to spray fruits and vegetables very little or almost not at all, because it protects plants from various types of diseases. Plants are well nourished, strong and healthy, and produce healthy and large fruits. The percentage of vitamin C in fruits has increased 5-7 times in peppers. Yields of plants that receive earthworms are up to 20% higher. The fruits themselves ripen up to 10 days earlier. And what was most important to us was that these fruits were with the taste of our childhood. Higher yields of 15-35% helped us to produce enough food for our family of five on a relatively small area. When it comes

to chemical composition, earthworms contain 11 times more potassium, 5 times more nitrogen, 3 times more magnesium and 7 times more phosphorus than manure.



Using office shredded paper as mulch helps the vegetables. With regular watering, over time, the worms that are there will gradually decompose the paper and the straw with which it is mixed. Vegetables will receive protection from the sun and cold, and by decomposition by California worms, the best nutrients necessary for the development and growth of the plant. Another in a series of innovative ways on our farm to dispose of office waste.

Hügelkultur model allows us to use old trees and stumps, then branches and twigs, green grass and cardboard. A layer of earthworm, compost and soil fertilizer is added on top. Wood absorbs water like a sponge, and the worms that are there slowly decompose the waste. This is how we solve the problem of branches from pruning fruit trees, which often fill up the containers and the surfaces around them, making illegal dumps.



People often come to us to get humus for houseplants and vegetables. Since the earthworm is ph neutral, you cannot overdo it, which is often the case with other fertilizers. For those who use the "drop by drop" system, this is a great choice. Through workshops, I try to inspire other people with our story. In recent years, there has been a growing interest in growing earthworms in apartments on terraces or in front of buildings, disposing of organic waste in common composters. In this way, they get rid of organic waste that will not end up in landfills, and from worms they get excellent fertilizer for lawns, flowers, and trees.



Flat roofs in Podgorica are not used in the way that is the practice in the world. It was my pleasure to help one such roof in Podgorica become a usable garden. A litter of California earthworms turns the organic waste of several families into a much-needed fertilizer for the garden. In this way, we significantly reduced the temperatures in the apartments under the concrete slab and made a pleasant and useful corner for the tenants to stay.



Working as an official consultant for composting and vermicomposting of the Ministry of Agriculture, Forestry and Water Management (IFAD project), I try to bring all these advantages closer to our farmers. The composition of the soil is not satisfactory and the most environmentally friendly and cheapest way to improve it is with the help of California earthworms.



Educating children about recycling is our priority. From a young age, waste disposal, its separation are part of the education of all kindergartens in EU countries where we strive to go. We try to practically teach them how earthworms feed on organic waste at workshops on our farm, kindergartens, extended stays. A new age disease diagnosed as "screenism" in children and adults causes a type of autism according to the WHO, and we must all fight together to "naturalize" children and parents. Since we have determined that no one from the outside will come to clean our country from waste, it is time for us to roll up our sleeves and do it. Today.

In my mission, I gladly accept to be part of projects aimed at involving the wider community. Urban gardens and towers that help socially vulnerable categories of society, youth centres in schools and kinder gardens where we plant vegetables and compost are just some of them.

We must do our best to leave this planet as a more beautiful place to live for those who come after us.



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