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Perspective

Vermicompost: Uses and its application on soil

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DESCRIPTION

Vermicompost (vermi-compost) is a mixture of decomposing vegetable or food waste, bedding materials, and vermicast created by the decomposition process employing various species of worms, usually red wigglers, white worms, and other earthworms. This is known as vermicomposting, and the practise of raising worms for this purpose is known as vermiculture.

The end-product of earthworms breaking down organic matter is vermicast (also known as worm castings, worm humus, worm manure, or worm faeces). These excreta were found to have lower levels of pollutants and a higher nutritional saturation than organic materials prior to vermicomposting. Vermicompost is a nutrient-rich organic fertiliser and soil conditioner that contains water-soluble compounds. It's utilised in gardening and organic, sustainable farming.

Vermicomposting can also be included in the treatment of feces. The difference in the process is vermifiltration (or vermidigestion) used to remove organic matter, germs and the need for oxygen in dirty water or directly in the dark water of flush toilets. Vermicomposting has gained popularity in both industrial and domestic settings because, compared to conventional compost, it provides a way to manage organic waste more quickly. In composting, it also produces low-salt products.

The most common types of earthworms (or compost worms) are most commonly used by red wigglers, although European nightcrawlers, and red worms (*Lumbricus rubellus*) may also be used. Red wigglers are recommended by many vermicomposting professionals, as they have some of the best appetites and breed very quickly. Users refer to European nightcrawlers with various other names, including *dendrobaenas*, dendras, Dutch nightcrawlers, and Belgian nightcrawlers.

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Containing water-soluble nutrients, vermicompost is a living organic fertilizer and soil conditioner in a way that is easy for plants to absorb. Worms are sometimes used as organic fertilizer. Because worms digest and mix minerals in the same way in simple ways, plants need very little effort. Worm-digesting techniques create an environment that allows certain types of bacteria help to create a "living" environment for plant soil. The part of the soil that has passed through the digestive tract is called the drilosphere. Vermicomposting is a common practice in permaculture.

Uses

Soil conditioner: Vermicompost can be mixed directly into the soil, or mixed with water to form a liquid fertilizer known as worm tea. Dark brown liquid, or leachate, which is absorbed under other vermicomposting systems, should not be confused with worm tea. It is an uncomposted product from which water-rich foods break down and may contain pathogens and toxins. It is best to discard or return to the bin where additional moisture is needed for further processing. The pH, nutrients, and microbial content of these fertilizers vary greatly from that of worms. Peeled limestone, or calcium carbonate, can be added to the system to increase pH.

Application

Regular use of vermicompost extract promotes plant growth, keeps plants healthier and fights from plant diseases. It can be used in organic farming and small scale sustainable farming. In North America, vermicomposting is frequently utilised for on-site institutional food waste processing, such as in hospitals, universities, shopping malls, and correctional facilities. For medium-scale on-site institutional organic material recycling, such as food scraps from universities and shopping malls, vermicomposting is used. It is chosen either as a more ecologically friendly alternative to traditional garbage disposal or as a means of lowering the cost of commercial waste collection.