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APPLICATION OF COMPOSTING TECHNOLOGY IN GARDENING

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Summary. *Ecological and sustainable are the principles that should be followed in gardening. We can use waste materials to make compost, thereby avoiding or reducing the use of chemical fertilizers.*

Compost is an ancient mixed organic fertilizer. The animal and plant remain and excrement containing fertilizer components are combined with soil and minerals to be piled up. Under the conditions of high temperature and humidity, it is made through fermentation and decomposition by microorganisms. The organic matter needs to be decomposed into humus. Rich in nutrients, the fertilizer effect is long and stable.

The use of compost is conducive to promoting the formation of soil solid structure, and can increase the soil's ability to retain water, heat, air and fertilizer. Mixed use with chemical fertilizers can make up for the shortcomings of the single nutrient contained in chemical fertilizers, which can cause soil compaction and decrease in water and fertilizer retention capacity. In addition:

1. Compost produces beneficial humus, which returns organic matter to the soil.
2. Composting will reduce the harmful effects of organic waste in landfills, such as water pollution, the emission of powerful greenhouse gas methane, and various odors.
3. Composting can reduce the demand for chemical fertilizers in vegetable gardens and gardens.
4. Composting can reduce the cost of garbage recycling.

Materials suitable for composting can be divided into three categories according to their properties:

Substances that are not easily decomposed, such as various crop straws, weeds, fallen leaves, vines, peat, garbage (need to filter out plastic/glass), food waste, etc.; materials that promote decomposition are generally high in nitrogen and rich in high-temperature fibers Substances that decompose bacteria, such as urine, domestic sewage, animal manure, old compost, plant ash, lime, etc.; materials with strong absorption, such as peat, fine soil and a small amount of superphosphate or phosphate rock powder, are added during the composting process They can prevent and reduce the volatilization of ammonia and improve the fertilizer efficiency of compost. Most organic materials can be used for composting, but some materials should be avoided: for example, cat and dog feces can cause plant diseases; weeds and grass seeds, meat, fish, oil, bones and fats can attract rats and flies, and the diameter is too large The woody material decomposes slowly; bamboo leaves, flax leaves and cabbage leaves are not suitable for composting [1].

Before compiling, materials from different sources should be sorted to screen out broken glass, stones, tiles, plastics and other sundries, especially to prevent heavy metals and toxic organic and inorganic substances from entering.

It takes months or longer to make compost using only the products of natural metabolism of plants in the garden. It can make full use of the effects of a variety of microorganisms, and the decomposition process will generate a lot of heat, which can kill the seeds of weeds and reduce the number of organisms that can spread diseases in the compost. Water, air and nitrogen are the necessary conditions for microorganisms to decompose plant fibers. In order to obtain high-quality compost, creating good conditions for the life activities of microorganisms during the composting process is the key to accelerating compost maturity and improving fertilizer efficiency [2].

All kinds of accumulated materials should be crushed in principle, and increasing the contact area is conducive to decomposition. The materials must be properly matched with wet and dry materials. Too much wet materials will make the compost sparse and airtight and will easily stink. If there are too many dry materials, the compost will not rot and will not turn into fertilizer.

The compost should be selected in a location with a higher terrain, sunny leeward, close to the water source, and convenient transportation and application. It can be composted by digging a hole or using a device (such as a compost bin), if conditions permit， compost toilet can be set up.

References

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ECOLOGICAL IMPORTANCE OF *TRICHODERMA* SPP. AND THEIR SECONDARY METABOLITES FOR ORGANIC FARMING

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Summary. *The development of organic farming around the world and in Belarus in the last 10–15 years has shown the importance of studying and introducing biological methods for combating plant diseases. For this, studies of various microorganisms are carried out throughout the world, which can become the basis for modern plant protection products that do not damage the environment and human health.*

The widespread occurrence of fungi of the genus Trichoderma attracted our attention due to the possibility of isolating and studying them to identify new highly active strains with a protective function, as well as useful for agriculture. For example, many people, including my family. are engaged in composting plant residues in order to obtain organic fertilizer. Adding Trichoderma to such a compost would speed up its maturation and also give it the property of a plant protection product.

Therefore, the goal of our work was to create a collection of *Trichoderma* strains of various origins and conduct a comprehensive study of it in order to select isolates that are most promising for crop production. To achieve this goal, we solved a number of tasks:

1) take samples of soils and other materials for the isolation of *Trichoderma*;

2) carry out the isolation of mushrooms from the collected sources and take samples of *Trichoderma*;

3) to select homogeneous morphotypes of *Trichoderma* to create a collection of isolates;

4) study isolates for a complex of morphological characters;

5) study the growth rate of the collection isolates using different carbon sources;

6) to evaluate the antagonistic activity of *Trichoderma* isolates from the working collection in relation to a number of plant pathogens;

7) to identify in the collection of *Trichoderma* isolates producers of siderophores;

8) to evaluate the resistance of *Trichoderma* isolates to some fungicidal preparations;

9) to study the ability of *Trichoderma* isolates to grow at 37o C.

10) to characterize the diversity of the collected collection of *Trichoderma* isolates according to the complex of the studied traits and to highlight the most promising for use in plant growing.