

Coffee grounds test report

Experimental testing

November 2023

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1.0 Cognition and principles of coffee grounds composting

1.1 Cognition and principles of coffee grounds composting

Coffee grounds contain about 2% nitrogen, but cannot be directly thrown into the soil for use. Instead, they need to undergo decomposition before being put into the soil, and it is a long-lasting fertilizer.

The carbon to nitrogen ratio required for microbial activity is approximately 25:1. Because microorganisms require 5 parts of carbon and 1 part of nitrogen for every organic compound synthesized, while using 20 parts of carbon to provide energy.

The content of various substances related to coffee grounds is as follows:

Nitrogen (N): 1.5% -2.5%

Phosphorus (P): 0.2% -0.7%

Potassium (K): 1.0% -2.0%

Carbon (C): 35% -40%

1.2 Operation and testing of coffee grounds composting

Randomly give a 1.5kg microbial bag as a gift.

Microbial packages contain diverse microbial communities that can decompose kitchen waste, carriers, and coconut husks (which retain water and are beneficial for plant cultivation)

The number of effective live bacteria $\geq 108\text{CFU/g}$

This can accelerate the decomposition and composting speed of coffee grounds.


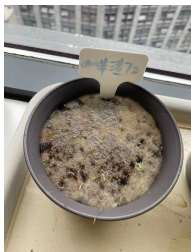

1.5kg microbial package, add 1.5kg coffee grounds



1.5kg microbial package

1.5kg coffee grounds cake

Mix coffee grounds and soil in a ratio of 1:5

| Group | Fermentation for 48 hours | Fermentation for 72 hours | Fermentation for 5 days |
|------------------|---|---|---|
| Planting time | Planting for 3 days | Planting for 6 days | Planting for 5 days |
| Actual photo |  |  |  |

1.3 Test conclusion

Mixing coffee grounds with soil for 5 days can cause mold. It is estimated that coffee grounds fermented for 7 days can be used for planting, while reducing the ratio from 1:5 to 1:10.