



Benefit of Composting

Composting manure with biological products is the process of decomposing animal and plant waste into organic matter that is easier for plants to digest after just a few weeks or months.

This process reduces odor, disease germs, helminth eggs, and harmful bacteria.

Using compost will improve soil fertility, provide the soil with essential nutrients for plant growth and some beneficial microorganisms, adjust soil pH, increase resistance to diseases, prevent fungi and pests from harming plants, and increase crop quality and productivity.

Compost weighs less and is easier to transport, significantly saving the cost of purchasing chemical fertilizers.

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FARMER TESTIMONY

Mr. Vi Van Tham
producing compost
with the ASSET
project

A lighter workload

Since adopting the composting, our farming has improved dramatically. In the past, the rainy season posed a significant challenge. The cattle manure was wet and heavy, almost impossible to transport to our fields.

Since with the support of the project – providing us with roofing, biomix yeast, and invaluable technical guidance – we have mastered the art of composting. Thanks to these innovations, our compost is now spongy, light, and easy to transport. It has no unpleasant odor, which makes handling it much more pleasant.

Increased yields with quality products

The different benefits brought by these innovations to our crops are incredible. Vegetables fertilized with this compost are sweeter and far superior in quality compared to those grown with chemical fertilizers.

Grow Sustainably, Eat Healthy
ADOPT AGROECOLOGY

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Funded by:



This document has been produced with the financial assistance of the French Development Agency (AFD), the European Union (EU) and the French Facility for Global Environment (FFEM). The views expressed herein can in no way be taken to reflect the official opinion of the AFD, EU and FFEM.



A TECHNICAL GUIDE:
Composting animal waste
and agricultural by-products



Agroecology and
Safe Food System
Transitions



cirad
 AGRICULTURAL RESEARCH
 FOR DEVELOPMENT

Composting biological products include 1 or more strains of microorganisms that are beneficial to plants and soil. These microorganisms participate directly or indirectly in all processes occurring in the soil such as: humification, converting minerals into organic substances, decomposing inorganic substances from insoluble compounds.

STEP 0: Material preparation

1. Manure 1,000 kg.

- If the humidity content is above 50% (if water leaks between fingers when pressing feces tightly), add rice husk, shredded straw, dry leaves (up to 20%).

3. Corn flour or rice bran: 3-5 kg

2. Biology product (yeast): use according to manufacturer's guide

4. Nitrogen fertilizer (N): 1kg

5. P2O5 fertilizer: 1kg

6. KCl fertilizer: 0.1kg

- Mix yeast with rice bran/corn flour.
- Add enough water to moisten
- Wrap tightly and incubate for about 2 days (summer) to 3 days (winter).



SIX EASY STEPS TO COMPOSTING

STEP 1: ACTIVATE BIOLOGICAL PRODUCTS



Mix the Biological products (1kg) with rice bran or corn meal (3-5 kg) in 2-3 litres of water. Stir several times. The mixture is stored in a closed plastic container. In the winter, the container is kept close to the fire, in a sheltered, warm place. When it gives off a slight sour smell, it's ready to use.

STEP 2 : PREPARING RAW MATERIALS (1T)



- Manure (800 kg) collected from the barn and/or stored in a pit
- Crop residues (200 kg): corn stalks, rice straw, weeds, water hyacinth, leaves, coffee shells, macadamia shells... chopped before composting
- Fertilizer: P (1kg), N (1kg), K (0.1kg)
- Reach and adjust the humidity at 45-50%

STEP 3 : PREPARING COMPOST PILE



- Choosing a dry ground and covered (avoid standing water, leaching)
- Spreading ingredients and EM in alternating layers (10-15cm thick)
- The area occupied by 1 ton of compost is 3m² (height of 1.2m, width of 2.0-2.5m)
- Cover with thick tarpaulin when finished.



STEP 4 : CHECKING COMPOST PILE

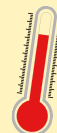
- **After 1 week: Check temperature, humidity and development of biological products.**
- Opening one corner of the compost pile
- Using a stick to insert it into the compost pile about 30 - 40cm, pull it out and hold your hand to check the compost pile temperature (55-60°C) and humidity (40-50%)
- Placing a stick into the compost pile to check the temperature



STEP 5 : STIRRING THE COMPOST PILE

After 2 weeks : Stirring the compost pile, add moisture or biological products (if necessary)

- Opening the canvas, stirring the compost pile
- Watering or adding biological products (if needed)
- Recovering



STEP 6 : FINISHING



After 5-7 weeks: Check for decomposition - Fertilize the plants

- When the pile is soft, decomposed and appears to collapse, press your hand down to see the porosity inside.
- Compost can be used as fertilizer for crops.