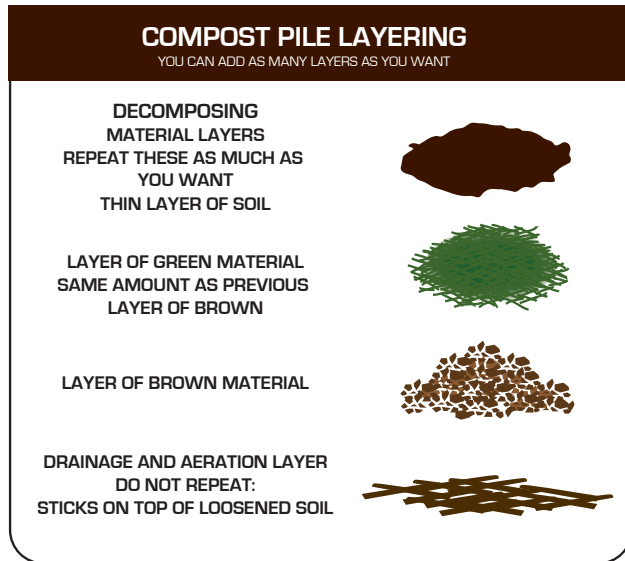


Excessive application of chemical fertilizer has exerted a great threat to soil quality and the environment. Averting this threat means to adopt a smarter production system that is environmentally and economically sustainable.

Composting is efficiently utilizing any degradable waste material that can be composted for fertilizer.

Composting is the process of natural degradation of organic matter carried out by environmental microorganisms whose metabolic activities cause the mineralization and partial humification of substances in the pile.



BENEFITS OF COMPOST INCLUDE THE FOLLOWING.

- Encourage the production of beneficial soil bacteria and fungi that break down organic matter to create humus, a rich nutrient-filled material.
- It can be applied to the soil as organic fertilizer in agriculture and reduce the need for synthetic fertilizers.
- Help retain moisture and
- Suppress plant diseases and pests.

BACTERIUM CULTURE FOR COMPOSTING

The Ministry of Agriculture cultures Lactic Acid Bacteria (LABs) and multiply them in the laboratory to quicken their growth and availability to be applied for faster decomposition of organic materials in a compost pile. MoA targeted LABs based on their ability to solubilize ammonium and phosphate to be available for plant uptake.



Rice washing and filtering rice washed water



Mix rice washed water with fresh unprocessed milk



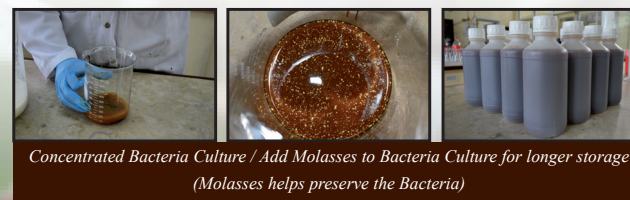
Cover and leave for 4-5 days



Top Layer forms / Scoop Top Layer / Filter the mixture



Concentrated Bacteria Culture / Prepare Molasses / Add Molasses to Bacteria Culture



*Concentrated Bacteria Culture / Add Molasses to Bacteria Culture for longer storage
(Molasses helps preserve the Bacteria)*

HOW TO USE LAB?

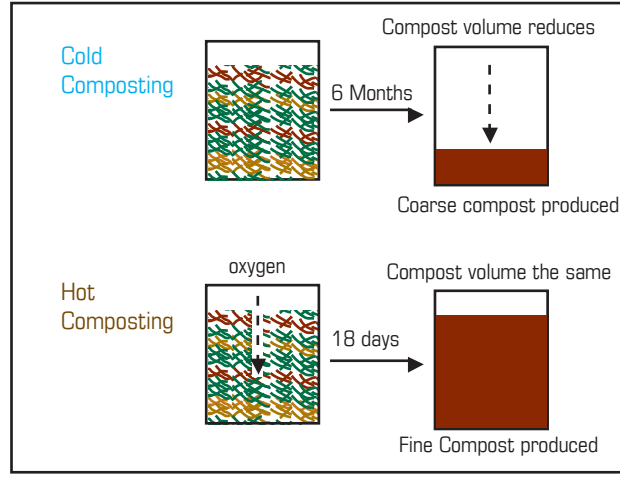
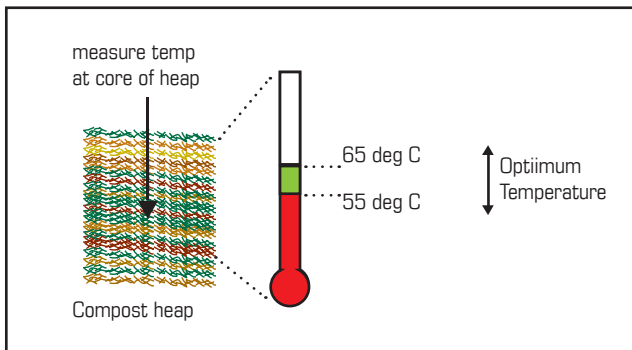
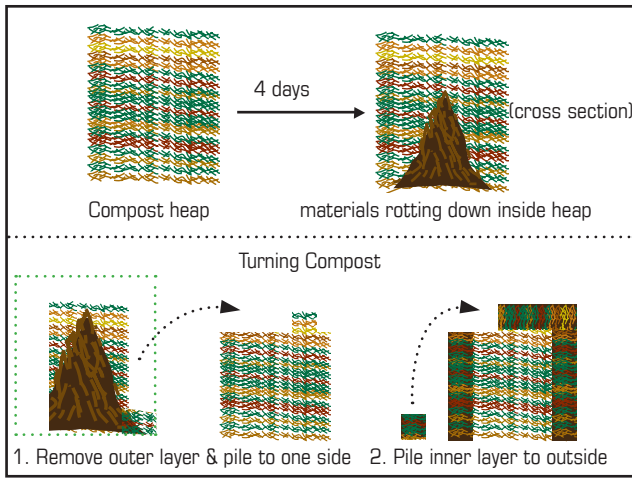
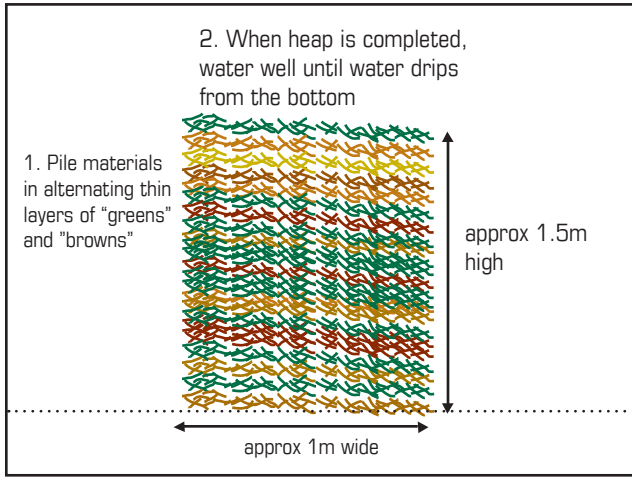
- The basic dilution ratio is 1L : 10L water
- LAB reinforces the ability of anabolism of microbes living on the plant stem and leaf, a condition that arose from the abuse of insecticides and fungicides.
- Fields will recover fertility and the soil will become soft and fluffy when LAB is sprayed on the field.
- Use LAB (1:500) as drinking water for livestock, to recover their digestive function.
- LAB is extremely effective in making fruits and leaves large, but the amount of LAB used should be reduced while approaching the later stages.
- If the LAB is used together with mixed compost or IMO, the fermentation process occurs fast, leading to very effective results. The LAB function is to prevent the fermented mixed compost from decaying.

USES OF LAB

- The Lactic Acid Bacteria (LAB) is very effective for improving soil ventilation and for growing fruits and leafy vegetables.
- The initial growth of the plant, when LAB is used during the vegetative growth period of fruiting vegetables, higher quality plants will result, and may be kept for longer periods, in storage.
- LAB increases the solubility of the fertilizer.
- LAB can reduce damage from gas through neutralizing ammonia gas produced where the immature compost is applied.
- LAB is conditionally anaerobic, so they can also survive with oxygen.
- LAB is resistant to high temperatures.
- LAB solubilizes phosphate in 100-200 ppm (parts per million) (100-200ml of LAB in 1000ml of water). Using LAB in phosphate-accumulated soil will increase its capacity to absorb the insoluble form of phosphates and help overcome the saline disorder as a result of decomposition of the phosphates.

Steps of Composting – Start to Finish

(Source: Berkeley Hot Composting)



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Ministry of Agriculture

BACTERIUM Culture

for Compost Preparation in Organic Farming

