

FACT SHEET:

Organic Gardening Practices

Koronivia Research Station



Home gardening gives us the opportunity to practice organic production. Organic gardening practices involve techniques of growing plants without the use of fertilizers and chemical means of pest and weed control. These practices promote the use of natural methods that are safe for the soil, environment and health.

USING HOMEMADE ORGANIC FERTILIZERS

There are generally two homemade products that can easily replace commercial fertilizers for your home gardens:

- i. Compost
- ii. Homemade Liquid Fertilizer (Compost tea)

i) What is a Compost

Compost is a dark coloured fine soil, rich in nutrients and microorganisms, you get from composting.

WHAT IS COMPOSTING

Composting is a natural process that involves the decomposition of organic matter (nutrient rich wastes) to make compost. This includes recycling kitchen and house wastes, and simply allowing them to decompose (decay naturally) until they change and become soil that is rich in nutrients and microorganisms.

Two broad categories of microorganisms consume and decompose organic matter: those that need air (aerobic) and those that don't (anaerobic). Most people who do composting rely on aerobic, above ground decomposition. It's the simplest method to start with because all that's required is a pile of organic matter or nutrient-rich wastes. A pile of compost needs to be turned twice a week to allow aeration and oxygen flow for the microorganisms to work.

BENEFITS OF COMPOSTING

Composting improves soil fertility by improving soil biodiversity through addition of organic matter and microorganisms, and provides nutrients that help home garden vegetables, fruits and herbs to grow well and healthy. Organic matter will improve soil structure and texture that allows movement of air within the soil and helps garden soil keep enough and water/moisture retention for the plants.

Starting Composting – Materials/ingredients

- Green ingredients - are ideal sources of nitrogen for composting which is an essential nutrient for plant growth and development. It can help the compost pile get to proper temperatures for making very good compost.
- Brown ingredients - are garden materials which are source of carbon to a compost pile. Carbon materials are

very useful to balance the mixture ratio if the compost pile contains excess nitrogen. Too much nitrogen will cause strong unpleasant (bad) smell so carbon is needed to balance the excess amount of nitrogen in your compost.

BROWN Ingredients (Carbon)

- Dry shredded leaves
- Dry grass
- Chipped wood
- Sawdust
- Wood ash (not charcoal)
- Banana skins
- Cassava peelings

GREEN Ingredients (Nitrogen)

- Fruit, Vegetable and Root crop peelings/trimmings
- Green leaves and grass/ weeds
- Seaweed
- Plant clippings/pruning's
- Used coffee grounds
- Used tea leaves
- Wilted flowers
- Human/Animal hair
- Chicken/Duck Feathers
- Crushed egg shells

Materials/Ingredients NOT to use for Composting

- Bones and meat
- Waste from dogs or cats
- Fats and cooking oils
- Treated wood
- Dairy products
- Plastics
- Yard clippings with pesticides or herbicides on them
- Diseased plants
- Leftover cooked food
- Mature weeds – seeds may germinate

Never use these materials as ingredients to your composting. They have certain bacteria in them that will slow down the breakdown process in composting.

WHEN STARTING YOUR COMPOSTING:

- It is important to make sure that you always use the right amount of green to brown ingredients in the table above; the best ratio is 1:2.
- This means you will add 1 part of green ingredients into 2 parts of brown ingredients.
- This ratio will allow the breakdown process to start and keep it going.

- Remember that if you do not follow the right ratio, it will take longer for the piled materials to decay until you can get compost.
- If you do not turn the compost pile, anaerobic bacteria will thrive causing odour.

HOW TO DO COMPOSTING

- Step 1. Collect all waste materials.
- Step 2. Choose an area that receives moderate sunlight close to a water source.
- Step 3. Make a pile by making layers of the “greens” and “browns” from compost ingredients collected.
- Step 4. Water the pile evenly and avoid over watering.
- Step 5. Repeat Step 3 to make the pile higher.
- Step 6. Test if the pile is hot inside by inserting a stick (or thermometer, optional) all the way into the pile.
- Step 7. Turn the pile upside down when it has cooled down.
- Step 8. After three months, the compost will be ready for use.

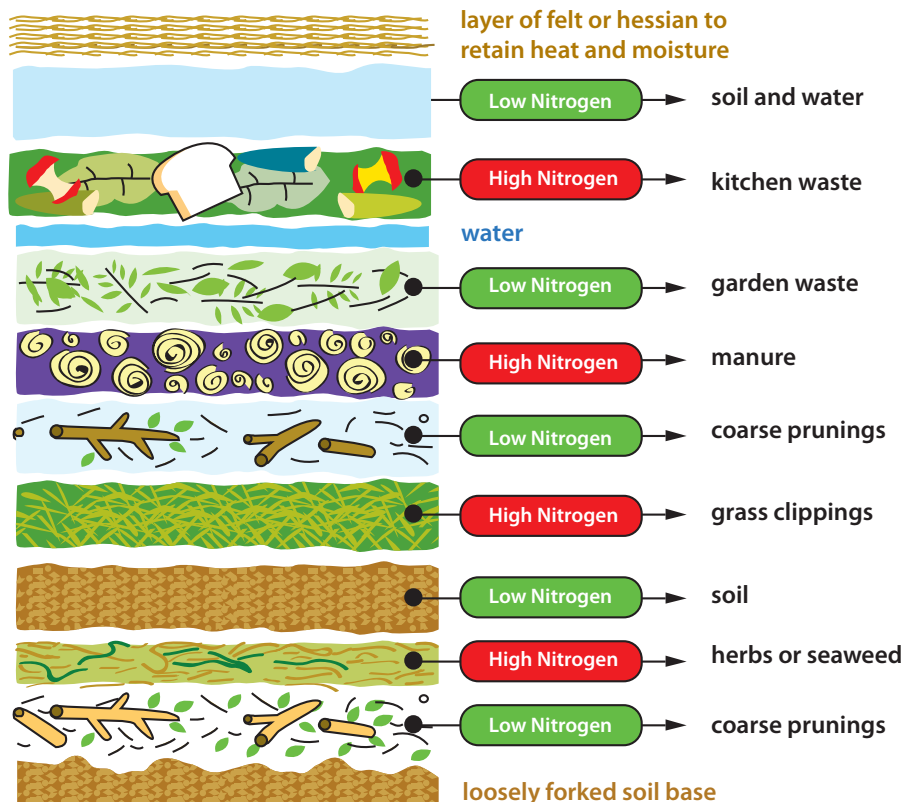
The finished compost is one where you hardly recognize the original materials. They will have being well broken-down with very dark colour and very fine texture. It generally has a smell like that of rich soil in a forest.

ENHANCING COMPOST DECOMPOSITION USING BACTERIUM CULTURE

The Research team of the Ministry of Agriculture recently produced Lactic Acid Bacteria (LABS) by extracting bacteria from raw milk, feeding them with molasses for longer storage. LABS is one of the many bacteria that is responsible for breaking down organic matter and increasing their population in your compost pile can reduce your composting time to 30-40 days. Contact your nearest Agriculture office for more information on how to get your bottle of Bacterium Culture, its free of charge.



Illustration of the complete piling by layers of the different compost materials



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