

# Preparation of quality farm-yard compost using locally available materials

For use by extension personnel and farmers



**Composting** is a controlled process that utilizes naturally occurring organisms to turn waste material into valuable organic fertilizer.

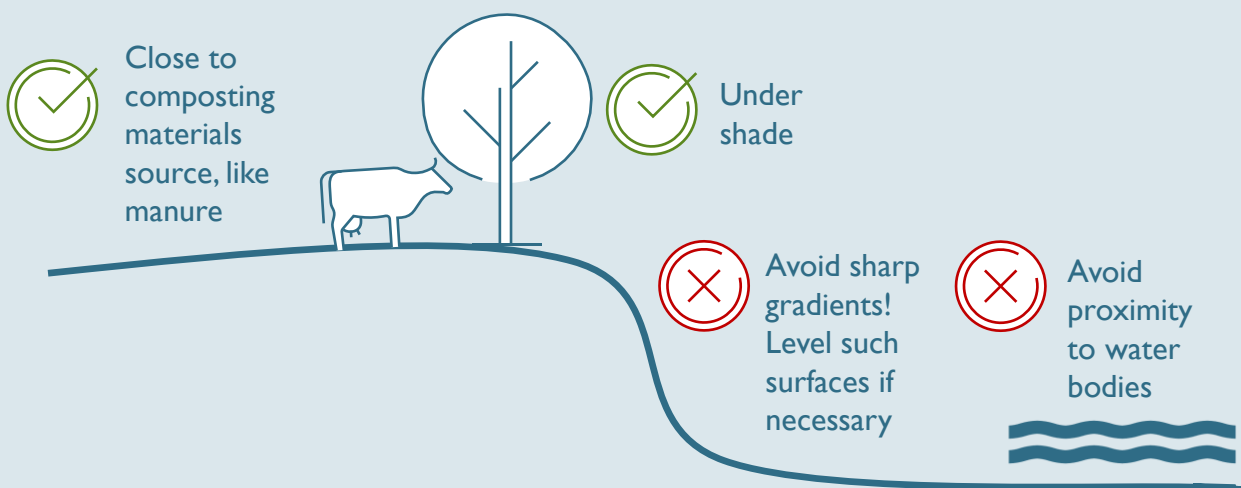
### Why composting?

- Weed and pathogen sanitization (high temperature kills them)
- Balanced nutrients for plants
- Affordable as materials are available around farms

### The amount of compost to prepare depends on the following

- The crop to be planted: different crops require different amounts of nutrients
- Fertility status of the farm: soils with low fertility require more compost, while fertile soils require less
- Integration of compost with other amendments available for soil fertility improvement

### What to consider before preparation about compost location



## On-farm resources for composting

### 1. Manure

- Cattle/poultry manure
- Domestic and municipal wastes
- Use decaying matter/forest /thicket soil if you do not have access to the above



### 2. Green materials

- Fresh clippings of grass
- Fresh twigs from live hedges, e.g., Lantana, Tithonia diversifolia, etc.



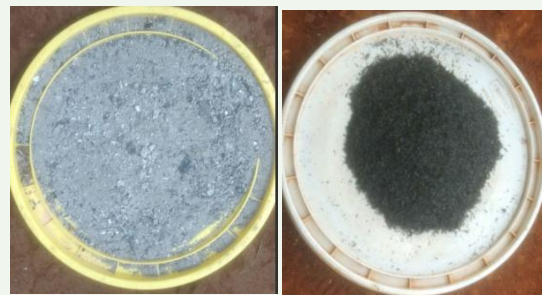
### 3. Dry matter

- Dry maize stalks, bean stovers
- Dry grass
- Dry tree leaves



### 4. Miscellaneous inputs (not essential)

- Wood ash (do not overuse, a handful sprinkle suffices per layer), biochar, soil
- Commercial inoculants



**Avoid:** Dog, donkey, and cat manure; eucalyptus and cassia tree leaves; plastic and other non-biodegradable material or medicine.



**Ratio:** 4 parts manure: 2 parts dry matter: 1 part green matter. If you do not have the dry and/or green matter, manure will still make good compost.



## Procedure of compost heaping

Start by dividing the respective materials into at least 3 portions (composting will hasten when you have more than 2 layers to stack)

1. Materials should be chopped into small pieces to hasten the process; approximately the size of an index finger (5-10 cm).



2. Spread a layer of larger dry wastes (small tree branches/twigs, straw, small pebbles/stones, etc.) for aeration and moisten the surface.



3. Add a dry matter layer and spread. Water the layer until the materials are adequately moistened.



4. Add a layer of cattle manure and spread to about the length of your palm (1/2ft) & moisten.



5. Add a layer of green materials.



6. Sprinkle with a handful of wood ash/ biochar and soil or spray commercial supplements. Moisten the heap.



Repeat steps 3-6 until you exhaust the portions of materials that you prepared.

7. Irrigate the compost to saturation.



8. Diagonally insert a sharp, dry, pointed stick into the compost pile (thermostick).



9. Cover the pile with soil and grass or old sacs to retain the moisture and the gases inside.



### Heap size and turning guidelines




- Don't heap more than 5 layers.
- Instead, increase the length of the heap!
- For a quality compost, turning should be done at least once every 5 days for the first three weeks and thereafter, once per week until 2 months
- After two months, compost can be left to cure without turning. Check moisture to ensure modest moisture levels

### Guidelines for use of thermostick

- Periodically remove the thermostick and check whether it's dry or how hot it is
- Do this at least once every 3 days for the first 3 weeks and once weekly until 2 months
- When the thermostick is covered with whitish materials, turn and water the compost



## How do I know that my compost is ready?

Raw manure/freshly composted	Not fully composted	Fully composted
		
<ul style="list-style-type: none"> <li>✓ Unpleasant odor</li> <li>✓ Has visible plant material</li> <li>✓ Scorches plants if applied</li> <li>✓ Composting materials can be seen and almost identified</li> <li>✓ Compost heap temperatures are high</li> </ul>	<ul style="list-style-type: none"> <li>✓ Dry matter is visible</li> <li>✓ Less foul odor but no earthen smell</li> <li>✓ The compost heap has episodes of sudden rise in temperature especially after turning</li> <li>✓ Intermediate temperatures- no too hot neither close to ambient</li> </ul>	<ul style="list-style-type: none"> <li>✓ Earthy, dark, crumbly/soil like i.e. almost granular</li> <li>✓ Properly managed compost will be ready in two months</li> <li>✓ Earthen smell (smells like forest soil)</li> <li>✓ The compost heap has temperatures close to environment temperature (ambient)</li> <li>✓ If you see remnants of dry matter and its planting time, you can remove them from the manure before applying</li> </ul>

## Imprint

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