

pathogens.

TESTING OF COMPOST MATURITY

After about five weeks, check the maturity of the compost by driving a wooden stick into the bottom part of pit. On removal of the wooden stick check for dry ash-like material on the stick which should be cold indicating complete decomposition of the plant material. If the wooden stick has wet material with an odour and is hot, it implies that decomposition is not complete. Allow another week for decomposition to go to completion. Once the test gives positive indicator for completion of decomposition, the compost is ready for use.

The general recommended rate for banana and avocado is 20 kg per hole during planting and after every 4 weeks, apply 20 kg per stool/tree until onset of flowering. For cotton and potato, the general recommended rate is 3 handfuls per planting hole.



Testing compost for readiness



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Low cost composting for Improved Soil Fertility Management





Making compost in a heap



Fine compost at the end of decomposition

Composting Making and Management

Composting is the biological decomposition of organic waste by bacteria, fungi, worms and other organisms under controlled aerobic conditions resulting in an accumulation of partially decayed organic matter called humus.

Benefits of Composting to the Soil

1. Improves the soil physical properties which include:
 - Increased and nutrient water retention
 - Improves soil aeration and structural stability
 - Helps resist water and wind erosion
 - Improves root penetration

- Stabilizes soil temperature.
2. Enhances soil chemical properties through:
 - Increasing macro- and micronutrient availability
 - Stabilizing soil pH
 - Converting nutrients to a more stable form
 - Reducing application fertilizer requirements.
 3. Improves soil biological properties by:
 - Increasing the activity of beneficial micro-organisms
 - Promoting root development
 - Increasing increase agricultural crop yields
 - suppressing plant diseases
 - Acting as acts a bio-filter by bonding to heavy metals.

MAKING COMPOST

Compost may be prepared in a pit, a bin or in an enclosure. It is advisable to place compost materials should be in layers, with the coarsest materials at the bottom to facilitate good drainage when it rains. There should be room on both ends of the heap to allow household members to walk round it. Under dry, hot conditions, the heap may be covered with banana leaves or any other material that reduce moisture loss from the surface of the compost heap. Air is essential for the composting process. To allow air to penetrate the heap, place vertical bunches of dry grass or bamboo poles into the heap 2 cm apart.

Procedure

1. Look for a site that has a natural shade of trees or construct a shade over the intended site for the pit.
2. Collect all suitable material required for composting and place the material at the intended site for the compost pit.
3. Dig a pit measuring a one-meter deep and 1.5 to

4. 2 meters wide scooping out the soil. Place the organic plant residues in the pit and raise it to 20 cm thick, if available broadcast small amounts of nitrogen fertilizer on the plant residues. Apply 2 cm to 3 cm of mineral soil on the plant material. Sprinkle water on the thin layer of soil to facilitate microbial activity to start acting on the plant residue and increase aeration.
 5. Place another layer of chopped plant residue on the first layer of soil raising it to 20 cm. Broadcast small amounts of nitrogen fertilizer on the plant residue and cover with 2 to 3 cm of mineral soil as done for the first layer. Sprinkle water on the soil.
 6. Repeat the above step 5 until the pit is filled with mineral soil at the level of the ground.
 7. Cover the soil of the compost pit with grass, plant leaves or polythene.
- A built-up compost heap will heat up, reaching temperatures as high as 60 to 80°C. This high temperature pasteurizes the compost, killing

