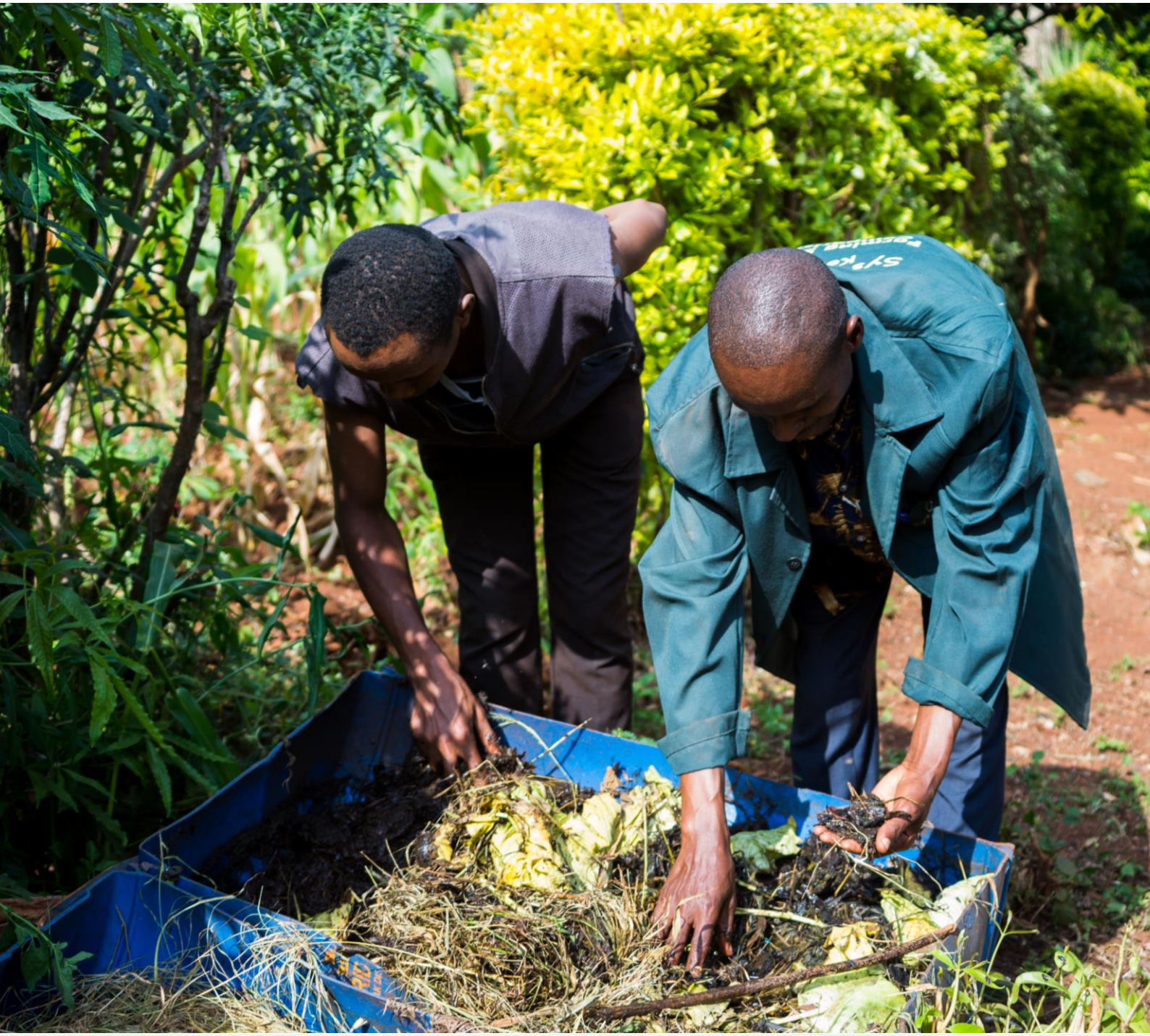
Technical guide
2024 | SysCom Kenya

Vermicompost and worm tea production on-farm

For use by extension personnel and farmers in Muranga and Tharaka-Nithi counties, Kenya



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Vermicompost is a nutrient-rich manure that remains after earthworms feed on organic wastes.

Benefits

- ✓ Rich in nutrients like nitrogen, phosphorous and potassium.
- ✓ Promotes microorganisms that improve soils and reduce soil-borne diseases
- ✓ Utilizes domestic and farm wastes hence cheap and reduces organic waste
- ✓ Requires less attention/less frequent checks

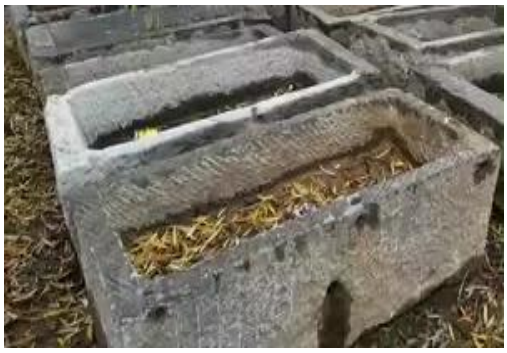
Worm tea or vermicompost tea is a liquid fertilizer produced by drenching vermicompost in water.

Benefits

- ✓ Rich in crop nutrients like nitrogen, phosphorous and potassium.
- ✓ Enhances soil health
- ✓ Easily applied to plants as a foliar spray or soil drench

Low-cost setup of a vermiculture unit

- The rearing area should be secure and elevated position, with moisture, aeration, food, and warm (not hot) temperatures
- Construct a structure using bricks or drums cut into two pieces along the height
- A bucket or waste bin can be used for small-scale production
- A pit on the soil surface will work for vermicompost but not worm tea
- You can purchase worms from local suppliers or online sources

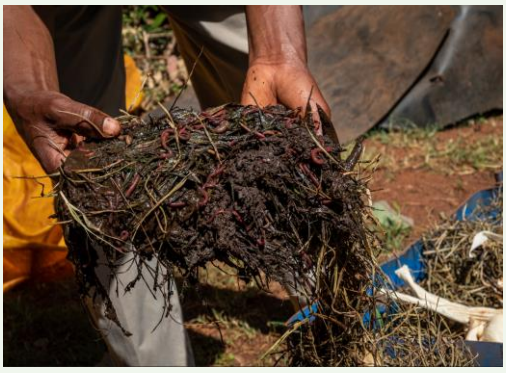


4 easy steps of establishing a vermiculture unit

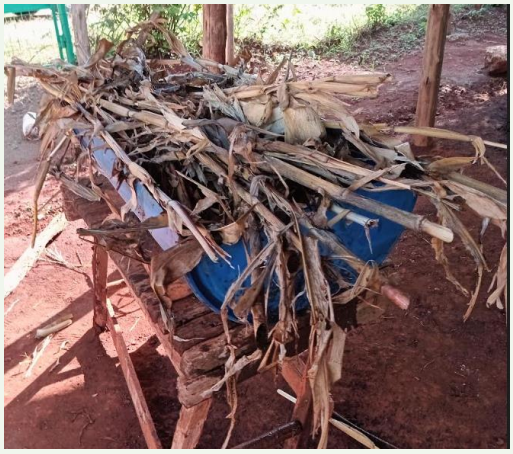
1. Add dry materials e.g banana trash, maize stover, coffee husks etc.

2. Add finer materials, e.g. cattle, sheep, goat manure and composted poultry manure - too much chicken manure is discouraged.

3. Add earthworms: place small handfuls of compost rich in earth-worms (clusters) into "wells/holes" within the vermicompost trough. Fill up with vegetable/garden waste.



4. Cover the unit from direct sunlight by roofing or applying twigs/dry matter on the trough.



Feeding the worms

Regularly add fresh materials (at least once a fortnight) as additional layers.

Good

- ✓ Chunks of food (bread, vegetable wastes etc.)
- ✓ Municipal waste

Avoid

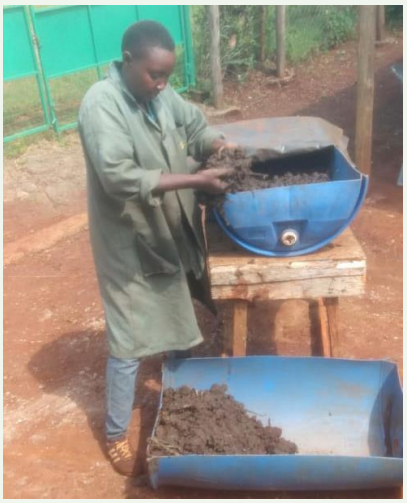
- ✗ Too much meat, dairy, and oily foods
- ✗ Too much citrus (orange, lemon and lime peels) that can make the environment acidic
- ✗ Smelly veggies like onions and broccoli
- ✗ Too much salt is bad for worms

Harvesting vermicompost

1. Move all the compost content to one side and put fresh material the other side.

2. Cover the side with fresh materials, leave compost exposed to sunlight.

3. Empty the old manure (vermicompost) for use.

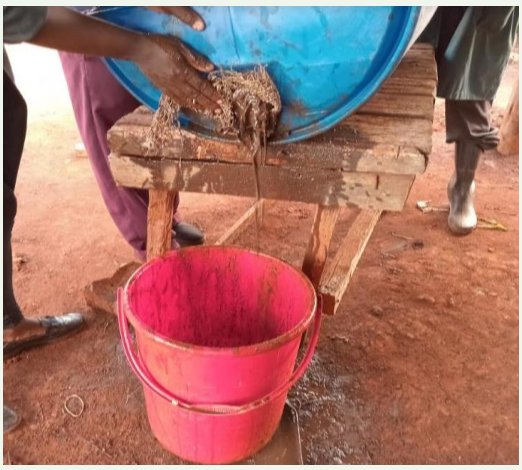


Harvesting the vermiculture juice or worm tea

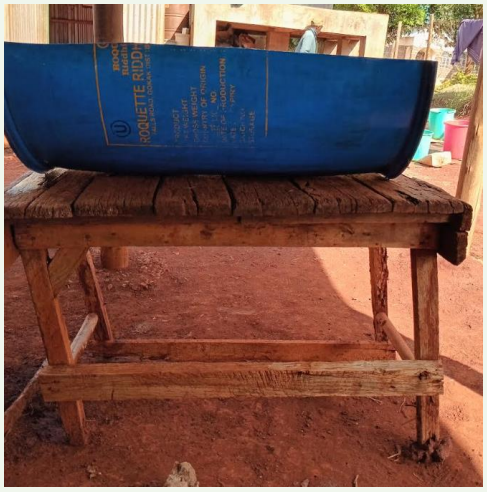
1. Add slightly more water to the trough.

2. Incline one side after 1-2 days and add some more water.

3. After 1 week, open the cork and drain the liquid into a separate container.



4. Cork back and return the trough to the level position.



5. Dissolve the drained juice into 10-20 parts of clean water and apply to your soils/crops.

Worms may also be sieved from old manure and fed to fish and poultry.

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