How to make & use BOKASHI

What is bokashi?

Bokashi is a Japanese word for making a natural fertiliser by cooking organic matter through decomposition. It is used to rebuild and bring life into soils and provide plants with nutrients to support strong plant growth. Bokashi is ready after only 12 to 15 days and the materials used to make bokashi are easy to find and do not cost much.

What you need:

- 7 bags soil. It is best if it is clay or black soil or soil from termite mounds.
- 7 bags manure from chickens, goats, sheep or cows. You can also mix manures.
- 7 bags brown materials like maize stover, dry leaves or even sawdust. dry matter should be cut up or broken up into small pieces not longer than a hand width to make it easy to turn in the heap.
- 1 bag crushed charcoal or biochar.
- 5 litres molasses (the thicker the better) or 2 kilograms unrefined cane sugar, preferably brown sugar, made into a syrup by dissolving it in 5 litres of water.
- 500 grams of yeast (instant clover or dried yeast).
- 1 bag bran (wheat, rice, oat) or straw. You can use a mixture of bran and straw.
- 8 to 10 kilograms fine rock dust or wood ash.
- Use untreated water that has no chemicals (like chlorine) added. Note that municipal water is normally treated.

1a

1b

CHOOSE SITE

Choose a place to make your bokashi that is protected from the sun, wind and rain. These elements can disturb the fermenting process and reduce the quality of the bokashi.

Make the bokashi on the ground, and never on a concrete floor. Collect the materials and bring to the site.

2

PREPARE MOLASSES MIX

Mix the molasses with 50 litres of water and the yeast in a separate container. Sprinkle every layer with the molasses mix to moisten the material.

3a

3b

LAYER MATERIALS

Build the heap by layering the different materials on top of each other. Sprinkle every layer with the molasses mix.

The layers can be placed in the following order: A layer of dry material, a layer of manure, a layer of soil, a layer of crushed charcoal and finally a layer of bran.

3c

3d

LAYER MATERIALS

All of the layers will eventually be mixed together, so no proper layer sizes are required, but avoid making the layers too thick.

Repeat these layers until all the materials are used up. Make sure the heap is no taller than 1.5 metres.

4

TURN HEAP

When finished, turn the heap 4 times until all the layers are mixed together well. Add some more molasses mix if the heap is still too dry and dusty. Add it in small amounts. The right amount of moisture can be checked using the squeeze test.

5a

5b

‘SQUEEZE’ TEST

Take a fistful of the mixed bokashi and squeeze it. It should form a sausage mixture that sticks together. If water leaks through your fingers, it means you have too much moisture. Turn heap again and add soil as you turn.

If it doesn’t form a sausage shape, you have too little water. Turn the heap again and add some more water. There should be no wet ground under or beside the bokashi heap.

6

CHECK TEMPERATURE

Check the temperature every day. Insert your hand deeply into the heap. The right temperature is about 60°C. You should feel a good amount of heat but be able to keep your hand inside the heap for a minimum of 10 seconds. If you need to pull your hand out before 10 seconds, the heap is too hot. If you feel only a little heat, the heap is too cold. If the heap has the right temperature, turn it 2 times a day (morning and evening) for the first 4 days. Otherwise fix the heap.

7

FIXING THE BOKASHI

If the heap is cold when you put your hand in, you need to add more molasses/sugar mixture and/or manure and turn the heap less frequently to start the process again. If your hand burns and you have to pull it out, the heap is too hot. Turn it more often every day or try spreading the materials out slightly to reduce the height of the heap. Keep checking the temperature until you get it right.

8

CONTINUE TURNING

From day 5 to day 10, turn the heap once a day until the temperature inside the heap is the same as the temperature outside. This can take longer in the cold season (up to 15 days) or if the fermentation has started slowly.

9

APPLYING BOKASHI

Use bokashi as soon as it is ready. The heap will continue to break down and can still be used. Fresh bokashi can be acidic and should not make direct contact with roots or leaves. Place bokashi at the bottom of the planting hole and cover with some soil (later you can also bury it beside the plant). Use 1 handful per plant for field crops and leafy vegetables, 2 handfuls for vegetables with heads and 3 handfuls for plants that are continuously harvested (like tomatoes).

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