EM in mud balls and charcoal

Mud bokashi ball:

The mud bokashi ball is known under different names, e.g. bokashi bomb or soil ball. It refers to an EM-inoculated soil-and-sludge preparation made into a big laddu-like ball. Wherever there is a strong throughflow or a large water-body (undersized settlement tanks / septic tanks, lakes and rivers etc.), the application of EM requires a steady habitat for the desirable microbial populations. The mud bokashi balls are meant to present this habitat.

The method of making mud bokashi balls is as follows:

Ingredients used:

- Any type of good soil (ideally, forest soil), shade-dried: 50%.
- Silt or sludge collected from the bottom of pond, lake, septic tank etc. whatever you intend to treat; shade-dried before mixing: 50%.
- Optionally, zeolite powder: 25% while reducing silt or sludge by 25%.

Steps:

- Mix all the ingredients and pour fresh AEM without dilution. (Alternative: Mix in EM1 and jaggery at equal amounts and at about the tenth of water volume required.)
- When the mixture gets moist enough, shape it into balls (by hand).
- Keep it in a shaded place for drying which takes about one week.
- After 7-10 days when you can see the development of white hairy fungus on the surface of the ball, the ball is ready for use; the fungal growth indicates quality.
- The application is as follows: Throw the ball into the water (lake, river shore, septic tank, etc.) one to two balls per square meter. Depending on the quality of water, apply bokashi balls periodically.

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Mixing the ingredients: shade-dried good soil, sludge from the bottom of a lake or septic tank and non-diluted fresh AEM.

Septic tank

Manufacturing the bokashi balls

The end product

The effects of bokashi ball application are as follows:

The microorganisms of the EM bokashi ball interact with silt and sludge at the bottom of the water body and with the scaling on the walls. Sludge and scaling are being broken down. Old sludge slowly disappears and formation of new sludge and scaling is drastically reduced, thus cleaning operations are minimized and costs are saved.

It is also useful for agriculture. For agriculture, the ingredients are:
Bokashi 25%
Charcoal or zeolite powder 25%
Soil 50%

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The preparation is the same as in the case of bokashi ball for water treatment. The application method is:
During crop growing period, put balls near the root of crop.
Put the balls around the root of fruit trees.

EM-soaked Charcoal

Drenching charcoal with EM is done in the following way:
Immerse charcoal in activated EM solution (AEM) for 48 hours. (For subsequent use in water, keep the charcoal – during drenching and during use – in a jute sac. Pieces cannot be as small as dust particles which would get them lost get lost through the fibers of the sac.) The EM-soaked charcoal can be used in the treatment of running water, or as a soil input. For the latter purpose dig a hole (or several holes, or a circular trench) on the drip line i.e. under the canopy of a tree (e.g. a hole one foot deep and wide) and fill it half with charcoal. Cover the charcoal with mulch and fill the hole or trench with mulch so as to protect the charcoal from drying,

It was observed that not only the charcoal remained moist for many weeks - in the peak of the dry season - but also the soil around the hole; which meant that microbial life in this area of the root system could remain alive and active.

Fine charcoal dust cannot be used for immersing charcoal for waste water treatment, but it can be used for soil applications. Of course, as fine charcoal powder gets lost with an application, you will have to fill in fresh charcoal when you want to repeat the application. The fine powder (soaked in EM) can be of use in chicken pens and in the free-run of chicken.

For in-water use of the EM-soaked charcoal, it needs to be soaked in undiluted AEM. For use of the charcoal in soils, AEM may be diluted up to 10 or 20 times with water,

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