

Aerobic high temperature composting with inoculation

1. EM-based quick composting

Effective micro-organisms (EM) consist of common and food-grade aerobic and anaerobic micro-organisms: photosynthetic bacteria, lactobacillus, streptomyces, actinomycetes, yeast, etc. The strains of the micro-organisms are commonly available from microbe banks or from the environment. There are no genetically engineered strains that are in use. Since 1999, seven small-scale organic fertilizer units have been using the EM-based quick production process in Myanmar. They are owned and operated by women's income generation groups. A unit consists of nine pits measuring about 180 cm (length) × 120 cm (width) × 90 cm (depth), enclosed by low walls and covered with a roof.

Raw materials: The raw materials for organic fertilizer production are: • cow dung – 2 portions; • rice husk – 1 portion; • rice husk–charcoal – 1 portion; rice bran, milled – 1 portion; • accelerator – 33 litres of EM solution or Trichoderma solution per pit.

Preparation of EM solution (accelerator): One litre of 'instant solution' is made by mixing 10 ml of EM, 40 ml of molasses and 950 ml of water and leaving it for five to seven days, depending on temperature. The solution is then added to 1 litre of molasses and 98 litres of water to obtain 100 litres of ready-to-use EM solution. This amount is enough for three pits. The EM solution functioning as accelerator reduces the composting period from three months to one month.