

Composting is a  
biological process in  
which



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Composting is a biological process in which organic waste is

For poultry waste, a low C/N ratio contributes to wastes are stabilized and converted into a product to large ammonia losses. be used as a soil conditioner and organic fertilizer. Composting provides an inexpensive alternative. During composting, mesophilic bacterial growth is for disposal of all dead animals, including poultry.

stimulated by the higher temperatures. The elevated Environmentally acceptable, disposal routes, with temperature induces thermophilic bacterial growth. potential financial benefits are required. The temperatures The pattern is then repeated in a second hotter stage.

achieved during properly managed composting will. The process is self-limiting because of excessive kill or greatly reduce most pathogens, reducing the accumulation of heat which will eventually fall. Anaerobic chance to spread disease. Properly composted material digestion of poultry manure has been shown to be a is environmentally safe and a valuable soil amendment viable disposal option 1. Operating conditions are for growing certain crops 1.

Composting has proven important, as excessive levels of ammonia and/or high pH to be an effective, environmentally sound method of for temperature levels can inhibit methane production 1. dead bird disposal. Rodents, scavenging animals and These microbial activities require a carbon: nitrogen (C: N) other pests are seldom a problem. Fly larvae, pathogenic a pH between 5 and 12 and greater than 30% free air Global Veterinaria, 9 (6): 683-690, 2012 684 bacteria and viruses are destroyed during composting Procedures 2.

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Most of the N present in poultry waste is Construction of Newly Designed Movable Closedorganic in nature and a large part of it is derived Composting Unit: The composting unit (200W x150Lx180from protein.

A management tool that would allow D cm) was designated by the principle investigator afterenvironmentally safe disposal of poultry wastes reviewing many of the movable composter producedcoupled with satisfactory crop yields would be very worldwide. The proposed design with its specialuseful 3. requirements to fulfill the most environmental safeCompost water content range is 45 - 65% w. b, level when transferred to field trial was manufactured bypH 5. 8-9. 0 and temperature 45-60°C as reasonable National Research Center (maintenance devices sectorranges.

Microorganisms in composting include; the in cooperation with STDF Egypt, finance sector). mesophilic 10°C - 43°C (50°F - 110°F) and Because the composting was carried out in boxes, naturalthermophilic 43°C-71°C (110-160°F) which are the aeration did not occur. It is though necessary to install anprincipal groups 4-8. artificial aeration system. Air could be blown into theThe current work was designed to investigate the compost via interior installed small fan fixed on side -wallefficacy of newly designed composter for disposing of the composting manufactured unit. In some of thepoultry and their wastes infected with avian influenza installations, compost temperature was controlled byH5N1 as well, obtaining compost product with more aeration and the aeration cycle with preset aeration timesenvironmental safe level with the most important that changed as a function of degree of maturity of thepathogens for agronomic use.

compost