Using Coffee Grounds to Replace Soils in Composting Processes: A Preliminary Study

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Abstract:

Reducing household wastes is one of the important issues in waste management discipline. A lot of people live in cities and towns, so the food wastes are increased dramatically. As a city lifestyle, fresh coffees are popular right now, vast amount of coffee grounds is increased significantly as well. Coffee grounds which have C/N ratio closely to soils are considered to replace soils and manures in the aerobic composting processes. To explore whether the composting process could be completed when using coffee grounds instead of soils, an experiment was designed. In addition, to investigate the level of carbohydrate, which is sugar and starch, resided in food wastes whether it is enough to use for completing composting processes, no sugar-added processes were compared to sugar-added processes. The results show that using coffee grounds to replace soils and manures can produce composts to fertilize plants. This method can be used to reduce food wastes and coffee grounds from households more than 50 percent of overall weights of fresh food wastes and coffee grounds. Regular food taken each day also have enough carbohydrate for producing composts, so there should be relatively potential to increase the chance to be non-communicable diseases or NCDs.

Keywords:

coffee grounds, composting process, food wastes, sugar and starch.