

Vermicomposting of Textile Industries' Dyeing Sludge by Using *Eisenia foetida*

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Abstract : Surat City in India is famous for textile and dyeing industries which generate textile sludge in huge quantity. Textile sludge contains harmful chemicals which are poisonous and carcinogenic. The safe disposal and reuse of textile dyeing sludge are challenging for owner of textile industries and government of the state. The aim of present study was the vermicomposting of textile industries dyeing sludge with cow dung and *Eisenia foetida* as earthworm species. The vermicompost reactor of 0.3 m³ capacity was used for vermicomposting. Textile dyeing sludge was mixed with cow dung in different proportion, i.e., 0:100 (C1), 10:90 (C2), 20:80 (C3), 30:70 (C4). Vermicomposting duration was 120 days. All the combinations of the feed mixture, the pH was increased to a range 7.45-7.78, percentage of total organic carbon was decreased to a range of 31-33.3%, total nitrogen was decreased to a range of 1.15-1.32%, total phosphorus was increased in the range of 6.2-7.9 (g/kg).

Keywords : cow dung, *Eisenia foetida*, textile sludge, vermicompost

Conference Title : ICACEE 2017 : International Conference on Architectural, Civil and Environmental Engineering

Conference Location : London, United Kingdom

Conference Dates : November 23-24, 2017