

عنوان مقاله:

Performance of A Pilot-Scale Vermifilter for the Treatment of A Real Hospital Wastewater

محل انتشار:

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خلاصه مقاله:

In this study, the performance of a pilot-scale vermifilter (VF) for the treatment of hospital wastewater using the earthworm species *Eisenia fetida* was evaluated. The earthworms' gut acts as a bioreactor and can ingest the wastewater solid and liquid organic wastes and expel these as vermicompost. A pilot-scale vermifilter was installed and operated for ۱۳۳ days in one of hospitals in Hamadan city; the designed system was fed with the influent passed through coarse and fine grillage and the sedimentation tank of the hospital's sanitary collection system. In order to study the efficiency of the system, the variations of pH value, chemical oxygen demand (COD), biochemical oxygen demand (BOD₅), and total suspended solids (TSS) were measured. In addition, a conventional geofilter (GF) without Earthworm was used as the experimental control. The vermifiltration caused a significant decrease in the levels of COD (۷۵%), BOD₅ (۹۳%), and TSS (۸۹%) as well as neutralized pH in the wastewater. Also, these contents in the geofilter were observed to be ۶۵%, ۷۱%, and ۷۱%, respectively. The vermifiltration technology can, therefore, be applied as an environmentally friendly method for hospital wastewater treatment.

کلمات کلیدی:

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/1912190>

