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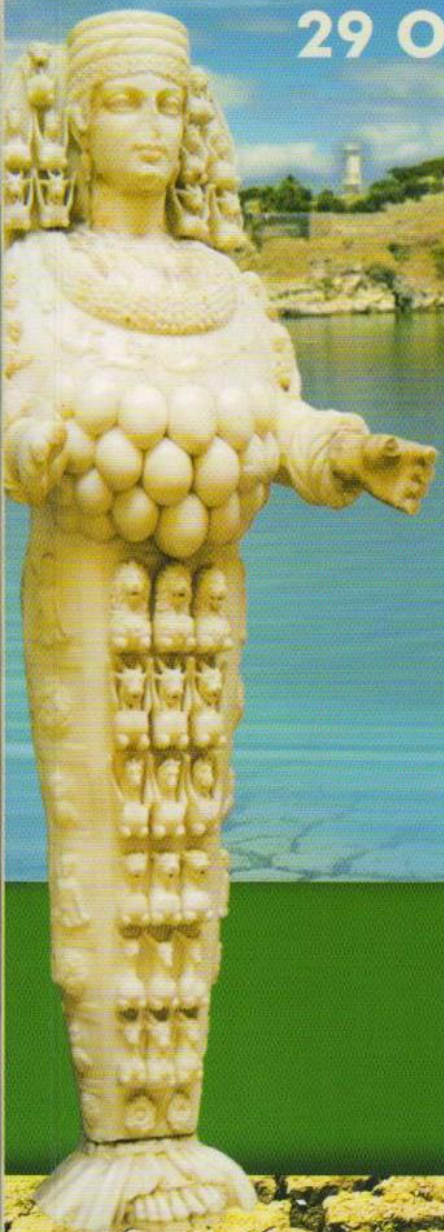

ABSTRACT BOOK

Effects Of Different Application Doses Of Sewage Sludge On Microbial Biomass And CO2 Production Of Soil And Earthworm Lumbricus Terrestris Cast

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This study was carried out in order to determine the effects different application doses of sewage sludge (0, 2, 4, 6, 8 and 10 %) on microbial biomass C, CO_2 production, organic C and total N of soil and earthworm *Lumbricus terrestris* casts. Experimental design was randomized plot design with three replications. The moisture content in soil was maintained around 60 % of maximum water holding capacity by weighing the pots everyday. Changes in the microbiological properties and total C and N were determined in the soil and earthworm casts samples taken in 15, 30, 45, 60, 75 and 90 days after the experiment was conducted. At the end of the experiment, earthworm casts had higher microbial biomass C, CO_2 production, total organic C, and total N levels than the surrounding soils at all incubation periods and sewage sludge applications significantly ($P<0,001$). Increases in application doses of swage sludge caused increases in microbial biomass C and CO_2 production, significantly ($P<0,001$). It was determined that the microbial parameters of soil and earthworm casts were not significantly changed after the 45th and 60th days of the experiment.

Keywords: Sewage sludge, soil, earthworm cast, microbial biomass C, CO_2 production