

# **The *influence of different moisture levels on the growth, fecundity and survival of *Eisenia fetida* (Savigny) in cattle and pig manure solids***

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The growth, fecundity and mortality of the epigeic earthworm *Eisenia fetida* in cattle manure solids and pig manure solids with *different moisture* contents (70%, 75%, 80%, 85%, 90%) were studied for 30 weeks in the laboratory. The maximum weight of *E. fetida* in the pig manure solids, which had a *moisture* content of 75%, was 1100 mg after 13 weeks with a highest growth rate of 12.8 mg d<sup>-1</sup>. The total number of cocoons and hatchlings produced was lower, compared to those in all the other *moisture levels*. Generally, earthworms grew bigger and faster in pig manure solids than in separated cattle manure solids but the mortality at all *moisture levels* in pig manure solids was high, ranging from 20% to 100%. The C/N ratio, NH<sub>4</sub> and NO<sub>3</sub> contents in the cattle manure solids and pig manure solids were variable both at the beginning of the experiment and in the earthworm casts or vermicomposts.

Keywords: *Eisenia fetida*; Cattle manure solids; Pig manure solids; *Moisture* contents; Earthworm casts or vermicomposts