

VERMICOMPOSTING – WASTE PROCESSING FROM SEWAGE SLUDGE TO GREENHOUSES

(Conference Theme: Life Sciences/Biotechnology)

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Keywords: sustainability, waste processing, soil enhancement

Communal sewage sludge processing is one of the most extensive industrial activities of mankind considering the volume of material to be taken care of. The amount of sewage sludge has been continuously growing as a result of the escalation of urbanized human population. According to *Council Directive 91/271/EEC of 21 May 1991 concerning urban waste-water treatment*, sewage system with biological waste water treatment facilities should be installed to all settlements over 2000 inhabitants until 31 December 2015. This will be a challenge for Hungary, where 43,5% of the homes are not connected to communal sewage systems, and more than 10% of the already existing waste water treatment facilities are overburdened.

Besides sewage treatment, deposition of sewage sludge is also a difficult question. Different techniques of deposition, compostation and even burning are included in the repertoire. The paper aims to give a report on a research project concerning a special technique of composting, called vermicomposting. In vermicomposting, decomposition of organic material is enhanced by utilisation of the helpful nature of the *Eisenia fetida* species (common name: redworm). While this idea had been used for domestical purposes for a long time (mostly for vegetable waste decomposition in gardens), and there are promising experiments about vermicomposting of primary sewage sludge, this technology has not been introduced to communal waste water processing facilities in Hungary yet. The project aims to develop a good practice for smaller settlements to meet the expectations of the 91/271/EEC Directive in an ecologically sustainable way.

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