Abstract

Vermicomposting is a possible method for reducing the amount of landfilled bio-waste. The product of vermicomposting is called worm tea. The thesis deals with the issue of composition and possible usage of worm tea, which is a liquid product of vermicomposting. The aim was to assess the composition and properties of worm tea samples provided from households. Then a mixed sample was tested as a nutrient solution for hydroponic growing. One year operation of a small vermicomposter as a mean of community bio-waste disposal was also assessed in the thesis.

Conductivity, pH, content of selected cations and anions and TOC were determined for each worm tea sample. Values of conductivity were then assessed by a correlation test with inhibition values gained from an ecotoxicological test with *Sinapis alba*. Testing of worm tea as a nutrient solution was done in an opened hydroponic system with *Lactuca sativa* seedlings.

Results show that samples of worm tea are very different and they can not be watered down according to their conductivity as was hypothesised. The largest percentage of samples evinced stimulating qualities in a concentration of 2,5 %. Worm tea can be used as an alternative of nutrient solution for hydroponic growth and it has potential for utilization as an stimulant for germination and initial development of the roots of plants. Evaluation of a vermicomposter operation revealed that it is not the most suitable way of community bio-waste disposal.

Key words: worm tea, vermicomposting, bio-waste