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Aspects on vermicompost quality

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Vermicompost is a generic name for compost which is produced primarily by earthworms. As common for Nordic regions, the Eisenia fetida, Dendrobaena veneta ect., are used for vermicomposting. Descriptive for final product is the fine structure of the compost (vermicast, biohumus), because it has passed the digestive tract of the earthworms and becomes enriched with the enzymes and plant available nutrients. The feeding material for earthworms is controlled by selection of the compost maker. As we can choose the feeding material it makes vermicompost valuable, especially for controlled or labelled production systems (organic farming etc.).
There are several options in order to test the compost quality: 1) chemical analyses for main agrochemical parameters (C, N, P, K, Ca, Mg etc.); 2) compost tests with fast growing plants both in open and closed chambers; 3) analyses for the organic matter break down (non dectructive, FTIR).
In current presentation we will introduce the first outcomes from vermicomposting trials and the end product quality. We tested several feeding materials (organic material from garden, biochar+organic material, fermented material with microorganisms in combination with organic material) on Eisenia fetida that resulted in different chemical composition on vermicompost. The fast plants test and FTIR microscopy results proved different composition and behaviour of composts. Also, we will discuss the current situation and constrains on vermicompost certification. Technology of vermicomposting has to be modified to fit into current legal frameworks of end-of-waste regulation. As concluded, vermicompost has potential as for soil improver in organic farming and as a component of growing media mixtures.

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