COMPOSTING OF FISH WASTE

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Abstract
Large amounts of fish waste is generated in fish processing industry, where approximately 25% of the round fish is cut off as waste; during fishing, where low-quality fish remains unused; but it also may be generated during die-off period under extreme hot weather conditions. Fish waste has to be stabilized. Composting is sustainable and environmentally friendly way to stabilize any type of organic wastes. Composting of fish waste, however, is uncommon in everyday life due to odour problems.
The main aim was to study different composting techniques to revalue locally available low quality small fish as nutrient rich fertiliser. The purpose was to find an effective and easily practicable technology, that can be carried out by local fishermen.
The compost experiment was conducted outdoors in three compost piles. The compost mixture was made from easily available wastes or by-products. Main components for compost mixture were fish and hay. Different C/N rates were used. To prevent the odour problem, ventilation with negative pressure was introduced. Compost mixing was organised by a Backhus 16.30 Windrow Turner, when CO2 content rised >10%.
Initial phase of composting was typical with temperatures reaching 70° C. At certain point, however, the process was inhibited. This also resulted in unpleasant odours, which were later eliminated by including a biofilter. On the other hand, the fish composted very fast (during three weeks).
This study showed, that composting is adequate low-tech technology to eliminate fish waste and offer nutrient-rich compost on-site where fish waste is generated. Optimisation of windrow composting will be tested further.

Keywords: Composting, Fish waste, Freshwater fish

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