

# **DEVELOPMENT OF AN EFFECTIVE METHOD FOR DECOMPOSING TOBACCO WASTE**

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## ABSTRACT

Ceylon Tobacco Company (CTC) (PLC) produces approximately 200 MT of tobacco waste annually. Though this waste has a plant origin and is being utilized for composting since 2003, the desired decomposition rate has not been achieved. Therefore a series of experiments were carried out at the research center of CTC to identify the potential treatments to obtain the desired decomposition rate.

Soaking 24 hours in water reduced the nicotine concentration of the materials by 90% while moisture content was increased by 570%. Different matrix adulteration methods were used to speed up the composting process thereafter in heap method. Addition of Calcium Oxide reported the fastest decomposition rate resulting 25% efficiency than the standard.

Ability to use wormy compost technology in tobacco waste was tested in 5:1 tobacco waste: cow dung medium. *Eisenia fetida* worms and 0.03% *pseudomonas sp.* combination resulted the fastest decomposition rate which was statistically significant at 95% confidence level.

Key words - *Eisenia fetida*, *Pseudomonas sp.*, Compost, Tobacco waste