ABSTRACT

POTENTIAL OF ENVIRONMENTAL POLLUTION FROM SOLID WASTE TREATMENT IN COMPOSTING HOUSE SOUTH SURABAYA

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There are six composting houses in South Surabaya which managing the solid waste by using windrow composting method. Windrow composting method generates negative impacts to the environment if not properly managed. This research aims to analyze the negative impact to the global warming potential by \( \text{CO}_2 \) parameter, acidification, and eutrophication.

Parameters that were analyzed comprise compost and solid waste composition, solid waste and compost density, and also the quality of compost. To see the pollution caused, parameters that were analyzed are pH, BOD, COD, ammonium and phosphate. Sample were collected in first, second, and third week of compost. The research considered a Life Cycle Assessment (LCA) method using SimaPro software.

The result of this research is indicated that the average pollution from composting house in South Surabaya against global warming is between 9.35% to 27% from Gayungsari’s Composting House to Tenggilis Rayon Taman’s Composting House and acidification is between 0.0001% to 0.00166% from emissions that released to the air, and eutrophication is between 8.62% to 40.56% from Jambangan’s Composting House to Tenggilis Rayon Taman’s Composting House from emissions that released to water.

**Key words**: acidification, composting house, eutrophication, global warming, LCA, SimaPro.
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