

UNIVERSITI TEKNOLOGI MARA

**EMISSIONS OF BIOAEROSOL
FROM WASTE COLLECTION
HOUSE AT UiTM SELANGOR,
PUNCAK ALAM CAMPUS**

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Project submitted in fulfillment of the requirements for
the degree of
**Bachelor of Environmental Health and Safety
(Hons.)**

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DECLARATION BY STUDENT

Project entitled “Emissions of Bioaerosol from Waste Collection House at Uitm Selangor, Puncak Alam Campus” is a presentation of my original research work. Whenever contributions of others are involved, every effort is made to indicate this clearly, with due reference to literature, and acknowledgement of collaborative research and discussions. The project was done under the guidance of Project Supervisor, Madam Siti Rohana Bt Mohd Yatim. It has been submitted to the Faculty of Health Sciences in partial fulfilment of the requirement for the Degree of Bachelor in Environmental Health and Safety (Hons).

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In the name of Allah, The Most Gracious, The Most Merciful.

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ABSTRACT

Bioaerosol become one of the occupational health problems to the waste collector. Bioaerosol were generated by the decaying of the organic waste that cause by the microorganism activity. Microorganism from the decaying waste may become airborne by adhering to the dust particles. The objective of this study is to investigate bioaerosol emissions from the waste collection house at the UiTM Puncak Alam. Bioaerosol samples from five colleges were collected by using Milipore Air Tester. The microorganism from the waste container also collected with using the swab technique. Samples were collected during the empty, half and full bins. To identify the relationship between the microorganism in the waste container and bioaerosol microorganism, the Pearson Correlation was done. *Salmonella sp* was the top bacteria in the waste storage. This bacteria shows the high concentration at all the sampling points. For the bioaerosol sample, the top bacteria were belonging to the *Enterobacter sp*. There were no significant between the microorganism in the waste container and bioaerosol sample. The highest microorganism that found in the air at the waste collections house was *Enterobacter sp* and being the source of the bioaerosols exposure to the waste collectors at the waste collections house. The exposure to the bacteria or fungi more than 10^3 CFU/m³ may cause the harmful effect to the waste collector such as respiratory problem and intestinal disease.

Keyword: Bioaerosol, *Salmonella sp*, *Enterobacter sp*, *Escherichia coli sp*, communal bin