

UNIVERSITI TEKNOLOGI MARA

**STUDY ON TRADITIONAL METHOD BY USING
ORANGE PEELS FERMENTATION AS AN
ALTERNATIVE IN SULLAGE TREATMENT**

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

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Declaration by Student

Project entitled "Study on traditional method by using orange peels fermentation as an alternative in sullage treatment" is a presentation of my original research work. Wherever contributions of others are involved, every effort is made to indicate this clearly, with due reference to the literature, and acknowledgement of collaborative research and discussions. The project was done under the guidance of Tuan Haji Pozi Bin Mohd Tahir as Project Supervisor and Mr. Ahmad Razali Bin Ishak. as Co-supervisor. It has been submitted to the Faculty of Health Sciences in partial fulfillment 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

STUDY ON TRADITIONAL METHOD BY USING ORANGE PEELS FERMENTATION AS AN ALTERNATIVE IN SULLAGE TREATMENT

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This study was conducted to explore the feasibility of using orange peels fermentation to treat sullage. The enzyme was prepared from orange dregs, kitchen waste, molasses and water and capable of having reinforcing and cleaning function to work with nature. In this study, sullage was collected at open drainage at Bandar Puncak Alam, which focused at the Fasa 2, Shah Alam 2 and UiTM Puncak Alam and enzyme dosage determinations were done at laboratory scale. Sullage collected were analysed for BOD, COD, SS and O&G. From the result obtained all samples treated using orange peels fermentation prepared shows removal of BOD, COD and oil and grease almost 95%, then SS was 93% after 7 days of treatment with different dosage of enzyme. The significant correlation between untreated sullage and treated sullage using the enzyme has the result, p-value less than 0.05. It was found that the enzyme is capable in parameter in sullage. This study shows the potential of this method as a pretreatment step in conventional biological treatment.

Keywords: *Garbage Enzyme, Grease Trap, Enzyme, Sullage, Oil and Grease, Open Drain*