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NOPPASASE WANSUMRITH : COMPARISON BETWEEN DROP PLATE AND POUR PLATE METHODS FOR ENUMERATION OF TOTAL BACTERIA IN POTABLE WATER. THESIS ADVISORS : NAOWARUT CHAROENCA Dr.P.H. (ENV.H.), NIPAPUN KUNGSKULNITI Dr.P.H. (ENV.H.), KRISANA TEANKAPRASITH M.S.(ENV.H.), SUDHIN YOOSOOK D.Tech.Sc.(ENV. ENG.) 95 p. ISBN 974-663-459-3

In this study, Drop Plate and Pour Plate methods were compared for the enumeration of total bacteria in potable water. Using three types of potable water : rain, tap, and bottled water, 25 samples each were tested. A pure culture of *Serratia marcescen* was also analyzed to compare the colony counts of the two methods.

Results were analyzed using the paired-sample t-test. The findings of this study support the hypotheses that the colony forming units per milliliter (CFU/ml) using both methods are not different for pure culture and total bacteria in all three types of potable water. The total bacteria recovered from all samples of rain and bottled water exceeded the drinking water quality standard. However, the Drop Plate method yielded faster growth with a shorter incubation period and higher counts than the Pour Plate method. Therefore, the Drop Plate method showed advantages of lower material cost and time-savings over the Pour Plate method. Nevertheless, the Drop Plate method is not suitable for motile species with swarming colonies and for samples of mixed culture with high bacterial density.