ISOLATION AND IDENTIFICATION OF CELLULOLYTIC BACTERIA WITH HIGH ACTIVITY TO DEGRADE CELLULOSE FROM SUMATRAN ELEPHANT (Elephas maximus Sumatranus) FECES AT SURABAYA ZOO

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ABSTRACT

Elephant is an animal that eat plants with a high crude fiber containing cellulose which is difficult to digest. The way to digest the cellulose is to use the help of cellulolytic bacteria which is usually in digestive track of herbivores, to degrade the cellulose. The aim of this study is to isolate and identify the cellulolytic bacteria with high activity to degrade the cellulose from Sumatran Elephant (Elephas maximus Sumatranus) feces. The method used in this study is an observational method that starts with a sampling of Sumatran Elephant feces were conducted in Surabaya Zoo and then dilute ranging from $10^{-1}$ to $10^{-5}$ and then grown on solid media CMC (Carboxil Methile Cellulose) and purified on Nutrient media. The results of this study were obtained 6 isolates of cellulolytic bacteria which is dominated by gram positive and cocci form bacteria. All of the cellulolytic bacteria have the ability to degrade the cellulose as indicated by the formation of a clear or hallo zone on CMC media.

Keywords: cellulose, cellulolytic bacteria, Sumatran Elephant, feces