

**IDENTIFICATION OF CELLULOSE DEGRADING BACTERIA**

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## ABSTRACT

### IDENTIFICATION OF CELLULOSE DEGRADING BACTERIA

Cellulose as the major component of plant tissues is the most abundant organic compound on the earth and the most abundant renewable bioresource produced in biosphere. This process bioconversion involved the cellulose enzyme. There are several microorganisms involves in production of enzyme called cellulase and commonly by bacteria and fungi. This study is done to identify the potential cellulose degrading bacteria, and to classify the bacteria based on their characteristics. A total of five bacteria were taken from previous study and growth on nutrient agar. The bacteria were screening by using mineral salt medium agar containing carboxymethyl cellulose (CMC) and stained with Congo Red and Iodine. All the five bacteria do not show any hydrolysis zone in Congo Red Test. Only Bacteria C and D show positive result for Iodine test. The selected bacteria are then further characterized with a few biochemical tested. Bacteria C and D show similar characteristic of colony morphology which are yellow in color, circular shape, convex and translucent with exception on their colony edge which either undulate or smooth respectively. Bacteria C and D are gram positive rod bacteria. Both are positive for catalase and urea test. Bacteria C and D are capable for utilize glucose and lactose. As a conclusion, Bacteria C and D are potentially from *Bacillus* group and capable to produce cellulose.