

**ISOLATION AND CHARACTERIZATION of BACTERIA WHICH PRODUCE
POLI- β -HIDROKSIALKANOAT (PHA) as BIODEGRADABLE PLASTIC
FROM GREAT FOREST GARDEN AREA
of SULTAN SYARIF HASYIM in RIAU PROVINCE**

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ABSTRACT

Plastic garbage has become a global scale of environmental problem because plastic cannot be waved by environment. The development of biodegradable plastic stuff is one of alternative to solve this problem. Poli- β -hidroksialkanoat (PHA) is one of element substance compound from biodegradable plastic stuff which is produce by granule in a cell. The purpose of this research is to isolation of amylolytic bacteria which can produce PHA as biodegradable plastic from Great Forest Garden Area of Sultan Syarif Hasyim in Riau Province.

There are 21 isolate bacteria have successfully isolated from land sampel that taken from Great Forest Garden Area of Sultan Syarif Hasyim in Riau Province. Bacteria Isolation of land sample was conducted by using starch hydrolysis medium. The characterization which are classificated based on the ability in degradation of amylum was indicated by observing of clear zone around the colony, qualitatively result 12 isolate bacteria and verified by iodium staining. Analysed qualitatively by staining with Sudan Black B, xylene and safranin, twelfth isolate able to accumulate or produce PHA with observed as a black granule in a bacteria cell were examined under phase contrast microscope at 1000x magnification. These Isolates have prospects in industry of biodegradable plastic from starch substrat production.

Key word : Biodegradable plastic, poly- β - hydroxyalkanoate, starch.