UNIVERSITI TEKNOLOGI MARA

THE PRODUCTION OF DEGRADABLE BIOPLASTIC FROM TARO STARCH *(Colocasia esculenta)*

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Thesis submitted in partial fulfilment

of the requirement for the degree of

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AUTHOR'S DECLARATION

I declare that the work in this proposal will carried out in accordance with regulations of Universiti Teknologi MARA. It is original and is the results of my own work, unless otherwise indicated or acknowledged as referenced work. This thesis has not been submitted to any other academic institution or non-academic institution for any degree or qualification.

I, hereby, acknowledge that t have been supplied with the Academic Rules and Regulations for Under Graduate, Universiti Teknologi MARA, regulating the conduct of my study and research.

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ABSTRACT

The rising of traditional plastic uses will caused horrible impact to the ecosystem. This is because it can lead to the plastic pollution and in some cases, it can cause the diseases because of the toxic that contained in it. By using the degradable bioplastic instead of a traditional plastic, it might help in reducing the pollution and the risk of diseases. Thus, this research aimed to extract the taro starch *(Colocasia esculenta*) and to produce the degradable bioplastic. Starch was extracted by manual peeling, chopping, blending, filtering and drying. Degradable bioplastic were produced from different concentration of glycerine (80%, 60% and 40%). 0.5% (w/v) of chitosan also added to act as plasticizer. Result showed that the higher the concentration of glycerine, the lower the tensile strength (MPa). Meanwhile, at slightly low concentration of glycerine (60%), it showed the highest percentage of water absorption. Furthermore, in degradation test for degradable bioplastic, it showed that the high concentration of glycerine (60% and 80%) are faster to decompose.

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