

**TUBER WASTE AS ALTERNATIVE MEDIA FOR
PROBIOTIC GROWTH**

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ABSTRACT

TUBER WASTE AS ALTERNATIVE MEDIA FOR PROBIOTIC BACTERIA

In recent years, there is a growing interest regarding the conversion of organic wastes into useful form like media which been widely used in laboratory and industrial arena. The tuber waste like *Colocasia esculenta* (Taro) peel and *Ipomoea batatas* (Sweet potato) peel contains a lot of nutrients which can be used to produce alternative media. These tuber waste have potential to be alternative media culture in growing the probiotic bacteria due to the nutrients have in the tuber peel which is suitable for lactic acid bacteria growth. The common agar that been used to cultivate probiotic bacteria colony grown is Man Rogosa (MRS) agar. Two types of tuber waste that been used which are *Colocasia esculenta* (Taro) peel and *Ipomoea batatas* (Sweet potato) peel as there is a difference in their concentration of nutrients to form alternative media for probiotic bacteria growth. The visible colonies that formed on the agar were counted as the Colony Forming Units (CFU/ml). The average CFU/ml from triplicate plates for MRS agar, *Colocasia esculenta* peel agar, and *Ipomoea batatas* peel agar were 113×10^{-5} CFU/ml, 153×10^{-5} CFU/ml, and 66.5×10^{-5} CFU/ml respectively. The *Colocasia esculenta* peel agar media grows more colonies compared to *Ipomoea batatas* peel agar media, this due to concentration of sugar in *Colocasia esculenta* peel agar media is higher than *Ipomoea batatas* peel media agar. Agar with the most colony enumerated are considered as the most favorable agar media for probiotic bacteria. The probiotic bacteria were also tested by several test for the identification include catalase test, tolerance NaCl test and Gram staining.