

**ISOLATION AND SCREENING OF ANTAGONISTIC BACTERIA
AGAINST *Xanthomonas oryzae*, THE CAUSAL AGENT OF BACTERIAL
LEAF BLIGHT (BLB)**

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ABSTRACT

Isolation and screening of antagonistic bacteria against *Xanthomonas oryzae*, the causal agent of bacterial leaf blight (BLB)

The world demand for rice is rising from year to year. Meanwhile, the average national yield in Malaysia are still lower in production and Malaysia still import 30% rice from Vietnam, Thailand and Pakistan to fulfil the demand of rice in this country. Disease caused by *Xanthomonas oryzae* pv. *oryzae* (Xoo) in paddy field was the main causes of Bacteria Leaf Blight (BLB), when lower the production of rice in Malaysia. BLB is one of the most devastating disease in rice which limits the annual rice production in both tropical and temperate regions of the world. The disease causes typical symptoms on infected rice such as leaf blight which appears on leaves of young plants, as pale-green water soaked streaks near the leaf tip and margins. The aim of this study is to isolate and screening the potential antagonistic bacteria against *Xanthomonas oryzae* pv. *oryzae*. A survey has been carried out at several areas at Kampung Permatang Kechil Kuala Sungai Daun in Kedah in early February 2019. Forty sample of healthy lead was randomly collected from the field and was isolate. The screening activities was measured by using disc diffusion method and the growth of inhibition zone was calculated by measure the diameter. The data was analyzed by used SPSS version 22 and Microsoft Excel. The results showed that there were significant difference the inhibition growth of antagonistic bacteria in disc diffusion method. . The higher means of zone inhibition growth of antagonistic bacteria showed in sample AB1 which mean is 5.75 ± 3.86 and AB14 the mean 8.50 ± 5.26 that the result show there are has significant in both sample. Based on the result, the antagonistic bacteria isolated has the potential as a biological control agent to control BLB disease in the field.

Keywords: *paddy, antagonistic bacteria, Xanthomonas oryzae* pv. *oryzae, disc diffusion, bacterial leaf blight*