

**IDENTIFICATION AND CHARACTERIZATION OF ANTAGONISTIC  
BACTERIA AGAINST BACTERIA LEAF BLIGHT CAUSED BY  
*Xanthomonas oryzae***

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## ABSTRACT

### **IDENTIFICATION AND CHARACTERIZATION OF ANTAGONISTIC BACTERIA AGAINST BACTERIAL LEAF BLIGHT (BLB) CAUSED BY *Xanthomonas oryzae***

Rice is a staple food crop in the world and also source of income for farmers. Unfortunately, there are several disease attacked that caused the yield of production decrease. Bacterial leaf blight of rice caused by the *Xanthomonas* species. The disease causes typical symptoms on infected rice production such as leaf blight which appears on leaves of young plant which become greyish and roll up. The objective of this study was to identify the morphological characteristic of antagonistic bacteria that can control bacterial leaf blight disease. The healthy leaf were collected and plated on nutrient agar (NA) and streaking technique was used for isolation. Single colonies was chosen for identification and characterization through biochemical test. From the isolation result, the characteristics of morphological of antagonistic bacteria showed for healthy leaf was white creamy, circular, convex and smooth on bacterial colonies. The result of observation was obtained using the microscope in order to observe the microscopic characteristics of the bacteria. Based on the result it showed nineteen sample of antagonistic bacteria was gram-negative reaction, rod-shape, circular, raised and scattered arrangement. The most of the potential antagonistic bacteria was identified as *Pseudomonas* spp. and *Bacillus* spp. Both species of antagonistic bacteria has potential to be as a biocontrol agents to the bacterial leaf blight disease. Based on the result, *Pseudomonas* spp. was the effective biological method to control bacterial leaf blight.

*Keywords: Bacterial leaf blight disease, Pseudomonas spp., Bacillus spp. Identification, Characterization of Antagonistic Bacteria*