

## **ABSTRACT**

### **EVALUATION OF ADAPTABILITY OF AGB (ACTIVATED GROWTH BACTERIA) AND SGB (SUPER GROWTH BACTERIA) IN WASTEWATER TREATMENT OF SUGAR INDUSTRY**

**By**

**ANISA APRYLITA**

The biological treatment of sugar industry wastewater in PT X uses the bacteria which are added in anaerobic pond and facultative pond. The AGB (Activated Growth Bacteria) bacteria is added in anaerobic pond and SGB (Super Growth Bacteria) is added in facultative pond. The adding of bacteria continuously will not be effective because the bacteria which are added probably will not grow. The adaptive bacteria will be the dominant bacteria in pond of wastewater treatment. The adaptability of microorganism can be showed from the change of microbial community structure by using quinone methods. This research was aimed to evaluate the change of microbial community structure in sugar industry wastewater in anaerobic pond and facultative pond by using quinone method and to know the adaptability of bacteria AGB and SGB in wastewater treatment of sugar industry by using quinone method. This research used sampling method

then samples were analyzed the change of microbial community structure by using quinone method. The result of this research showed that the change of microbial community structure in anaerobic pond were due to changes in Vitamin K1, menaquinone (MK)-5, MK-7, ubiquinone (UQ)-7, UQ-9, UQ-10, and MK-8 - containing bacterial profiles and the changes in UQ-8, MK-10, UQ-10, MK-7, and MK-8 containing bacterial profiles cause the change of the dominant quinone profile in facultative pond and the adaptability of AGB and SGB could not be explained using quinone method.

Key words : sugar industry wastewater , quinone, microbial community structure