

**THE ANTIBACTERIAL ACTIVITY OF COMBINATION ETHANOLIC LEAVES
EXTRACT OF *Piper betle*, *Piper crocatum* AND *Amaranthus cruentus* AGAINST
*Pseudomonas aeruginosa***

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TUGAS AKHIR

**Diajukan kepada Program Studi Biologi, Fakultas Biologi guna memenuhi sebagian
dari persyaratan untuk mencapai gelar Sarjana Sains (Biologi)**

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**Fakultas Biologi
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Salatiga
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ABSTRACT

The betel and amaranth groups have various active compounds, which have the potential to be used to inhibit the growth of pathogens such as *Pseudomonas aeruginosa*. This study aims to compare the effectiveness of the combination of green betel (*Piper betle*) and red betel (*Piper ornatum*) with red amaranth (*Amaranthus cruentus*) leaf extract in inhibiting the growth of *Pseudomonas aeruginosa* bacteria and its correlation with the photosynthetic pigments level contents. The test extract was obtained by the maceration method using 96% ethanol as solvent. Antibacterial activity was tested using the paper disc diffusion method. The ratios of the extract combinations used were 1:0, 1:1, 1:2, and 2:1. The results showed that the extract with green betel composition had the strongest inhibition. At a ratio of 1:0, green betel extract obtained a strong inhibition of 15.75 mm, at a ratio of 2:1 showed moderate inhibition, which was 6.5 mm. While the ratio of 1:1 and 1:2 showed weak inhibition, namely 4.5 mm and 1.75 mm, respectively. The effectiveness was significantly different than the combination of red betel and red amaranth leaf extract which did not show any inhibiting activities. And there's a positive correlation between the inhibition activities with some photosynthetic pigments.

Key words: Antibacterial, Green betel, Red amaranth, Red betel, Zone of inhibition.



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