



ANTIBACTERIAL EFFECTS OF KEPOK BANANA BUNCH (*MUSA PARADISIACA* L.) AGAINST *STAPHYLOCOCCUS AUREUS*

T Maryati^{1,2}, T Nugroho², Z Bachruddin² and A Pertiwiningrum^{2*}

¹Department of Leather Processing Technology, Politeknik ATK Yogyakarta, Indonesia

²Faculty of Animal Science, Universitas Gadjah Mada, Yogyakarta, Indonesia

*E-mail: artiw@mail.ugm.ac.id

Introduction

Banana (*Musa* sp.) are one of the leading fruit crop in Indonesia. However, banana plants produce a lot of useless waste. Every parts of the banana plant is known to have many phytochemical compounds. This phytochemicals is potentially to be use as an antibacterial agent.

Bacteria that resistant to many treatments but sensitive to phytochemicals are *Staphylococcus aureus*. Several studies proven that banana peels can be used as antibacterial agents.

We suspect that other parts of the banana plant may also have antibacterial activity. This study aimed to determine the antibacterial effect of Kepok Banana bunches (*Musa paradisiaca* L) against *Staphylococcus aureus* bacteria.

Materials and Methods

The material used were Kepok Banana bunch (*Musa paradisiaca* L.). Extraction of banana bunches using soxletation methods from Harborne (1987).

The experiment use completely randomized design with 3 treatments (50 μ L, 70 μ L Kepok Banana bunches extract and 50 μ L Cloramphenicol as a positive control), each treatment replicated three times.

The study was performed used wells agar diffusion using Mueller Hinton Agar (MHA). The measured zone of inhibition is the radius (r) in mm, which is the clear area around the well

Data were analyzed by analysis of variance (ANOVA) and followed by Duncan Multiple Range Test (DMRT).

Results

Table 1. Zone of bacterial inhibition of banana bunch against *Staphylococcus aureus*

Treatments	Inhibition zone <i>S. Aureus</i> (mm)
Kepok banana bunch extract 50 μ L	11,52 ^a
Kepok banana bunch extract 75 μ L	15,52 ^a
Cloramphenikol 50 μ L	34,78 ^b
P. Value	<0,05

Figure 1. Inhibition Zone of 50 μ L (A) and 70 μ L (B) Kepok Banana bunch extract, and 50 μ L Cloramphenicol (C) against *Staphylococcus aureus*



Conclusion

Based on the results of the study, it can be concluded that the Kepok banana bunch extract has antibacterial activity against *Staphylococcus aureus* although it is not comparable to cloramphenicol. Further studies using higher concentrations need to be carried out.