

**DETECTION OF GENOTYPE VARIATION BASED ON COAGULASE
GENE POLYMORPHISM AND ANTIBIOTIC SUSCEPTIBILITY
PROFILE OF *Staphylococcus aureus* ISOLATED
FROM COW MILK**

Mirza Atikah Madarina Hisyam

ABSTRACT

A total 24 *Staphylococcus aureus* strains isolated from 148 cow milk sample from several dairy farms in Lumajang, Pasuruan, and Batu districts in East Java investigated for its antibiotic susceptibility profile and genotype variation based on coagulase gene polymorphism. Resistance to one or more antibiotics tested showed by 17 (70,83%) isolates in this study. Based on its antibiotic susceptibility test results, the antibiotic susceptibility profile of *S. aureus* isolates in this study classified into five antibiotypes (I to V). The most common resistance pattern found in this study was resistance to antibiotics ampicillin and amoxicillin. Twenty *S. aureus* isolates in this study analyzed using polymerase chain reaction for its coagulase gene. The *coa* gene genotyping revealed six types of genotypes based on amplification product size (433bp, 514bp, 547bp, 676bp, 757bp and 838bp) with one dominant genotype (514bp) found in at least one isolates from every district. The presence of one dominant genotype shows that the population structure of *S. aureus* in several dairy farms in Lumajang, Pasuruan, and Batu districts in East Java were highly clonal, and the variance results of *coa* gene amplification shows that population structure of *S. aureus* in this study consist of six types of genotypes.

Keywords : *Staphylococcus aureus*, antibiotic susceptibility profile, genotyping, *coa* gene, polymorphism.