

## INTISARI

### ISOLASI *Staphylococcus sp.* DAN *Salmonella sp.* DARI SUSU MASTITIS SERTA SENSITIVITAS BERBAGAI ANTIBIOTIK

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Mastitis merupakan peradangan pada ambung yang dapat disebabkan karena infeksi mikroorganisme seperti *Staphylococcus sp.*, *Salmonella sp.*, *Streptococcus sp.*, dan *Escherichia coli*. Penelitian ini menggunakan bakteri *Staphylococcus sp.* karena bakteri tersebut merupakan bakteri yang sangat sering ditemukan dalam susu. Sedangkan bakteri *Salmonella sp.* dikenal jarang ditemukan dalam susu, namun dalam penelitian Demirci (2019) ditemukan beberapa sampel susu kambing yang mengandung bakteri *Salmonella sp.* Oleh karena itu dilakukan penelitian serupa dengan sampel susu sapi sebagai perbandingan. *Staphylococcus sp.* adalah bakteri paling berbahaya yang dapat menyebabkan keracunan makanan (*food borne disease*). Bakteri ini termasuk bakteri patogen yang dapat memproduksi enterotoksin pada makanan. Bakteri *Salmonella sp.* dapat ditularkan dari hewan yang menderita salmonellosis atau pembawa pada manusia, salah satunya melalui susu yang terkontaminasi. Infeksi *Salmonella sp.* pada manusia mengakibatkan diare, kram perut, demam, menggigil, mual, muntah dan sakit kepala yang berlangsung selama lebih dari 7 hari. Penelitian ini bertujuan untuk mengisolasi *Staphylococcus sp.* dan *Salmonella sp.* dari sampel susu mastitis yang berasal dari Koperasi Ternak Sarono Makmur, serta untuk mengetahui sensitivitas antibiotik dari berbagai isolat.

Sebanyak 14 sampel susu mastitis didapat dari 59 sampel susu segar yang berasal dari 8 kelompok peternak sapi perah yang telah diuji menggunakan reagen *California Mastitis Test* (CMT) dan Institut Pertanian Bogor (IPB-1). Identifikasi bakteri *Staphylococcus sp.* melalui isolasi pada media *Mannitol Salt Agar* (MSA), sedangkan bakteri *Salmonella sp.* menggunakan media *Xylose Lysine Deoxycholate* (XLD). Uji sensitivitas antibiotik dari bakteri diuji menggunakan metode difusi cakram pada media *Muller Hinton Agar* (MHA).

Hasil penelitian menunjukkan bahwa 100% (14/14) sampel mengandung *Staphylococcus sp.* dan 28,58% (4/14) sampel mengandung *Salmonella sp.* Uji sensitivitas terhadap berbagai antibiotik penisilin, streptomisin, dan gentamisin menunjukkan bahwa antibiotik paling sensitif adalah gentamisin yaitu menghambat 71,4% isolat bakteri *Staphylococcus sp.* dan 100% isolat bakteri *Salmonella sp.*

**Kata kunci:** antibiotik, *Salmonella sp.*, sensitivitas, *Staphylococcus sp.*, mastitis.

## **ABSTRACT**

### **ISOLATION Staphylococcus sp. AND Salmonella sp. OF MASTITIS MILK AND THE SENSITIVITY OF VARIOUS ANTIBIOTICS**

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Mastitis is an inflammation of the udder caused by microorganism infections such as Staphylococcus sp., Salmonella sp., Streptococcus sp., and Escherichia coli. This study focuses on the bacterium Staphylococcus sp. because it is commonly found in milk. While Salmonella sp. is rarely found in milk, Demirci (2019) found some goat milk samples contaminated with Salmonella sp. Therefore, a similar study was conducted using cow milk samples as a comparison. Staphylococcus sp. is the most dangerous bacterium that can cause foodborne illness. It is a pathogenic bacterium capable of producing enterotoxins in food. Salmonella sp. can be transmitted from animals suffering from salmonellosis or carriers to humans, including through contaminated milk. Salmonella sp. infection in humans can result in diarrhea, abdominal cramps, fever, chills, nausea, vomiting, and prolonged headaches lasting more than 7 days. This study aims to isolate Staphylococcus sp. and Salmonella sp. from mastitis milk samples obtained from Sarono Makmur Livestock Cooperative, as well as to determine the antibiotic sensitivity of various isolates.

A total of 14 mastitis milk samples were obtained from 59 fresh milk samples sourced from 8 groups of dairy farmers, which were tested using the California Mastitis Test (CMT) and Bogor Agricultural University (IPB-1) reagents. Staphylococcus sp. bacteria were identified through isolation on Mannitol Salt Agar (MSA) media, while Salmonella sp. bacteria were identified using Xylose Lysine Deoxycholate (XLD) media. The antibiotic sensitivity test of the bacteria was conducted using the disc diffusion method on Muller Hinton Agar (MHA) media.

The research results showed that 100% (14/14) of the samples contained Staphylococcus sp. bacteria, and 28.58% (4/14) of the samples contained Salmonella sp. bacteria. The sensitivity test to various antibiotics, such as penicillin, streptomycin, and gentamicin, showed that the most sensitive antibiotic was gentamicin, which inhibited 71.4% of Staphylococcus sp. bacterial isolates and 100% of Salmonella sp. bacterial isolates..

**Keywords:** antibiotics, mastitis, Salmonella sp., sensitivity, Staphylococcus sp.