

ABSTRAK

KOMPOSISI DAN DISTRIBUSI BAKTERI OPORTUNISTIK KONTAMINAN PADA SUSU KAMBING SEGAR DI SLEMAN, DAERAH ISTIMEWA YOGYAKARTA

Dinda Liya Zafirah

NIM. 22/493900/KH/11232

Susu kambing segar merupakan bahan pangan asal hewan dengan nilai nutrisi tinggi yang rentan terhadap kontaminasi mikroorganisme sehingga berisiko menimbulkan gangguan kesehatan dan risiko keamanan pangan. Penelitian ini bertujuan untuk menganalisis komposisi dan distribusi bakteri kontaminan oportunistik pada 17 isolat dari 120 sampel susu kambing, 7 swab lingkungan kandang, 7 swab tangan pekerja, dan 7 sampel air minum yang diambil dari tujuh peternakan di Kabupaten Sleman. Isolasi bakteri menggunakan bantuan media *Nutrient Agar* (NA), *Baird-Parker Agar* (BPA), dan *Sorbitol MacConkey Agar* (SMAC). Identifikasi bakteri dilakukan melalui pewarnaan Gram, uji biokimia (katalase, koagulase, IMViC), serta konfirmasi menggunakan sistem *Gram Negative Identification* (GN-ID) dan *Gram Positive Identification* (GP-ID) (Sensititre®, Thermo Scientific). Berdasarkan hasil identifikasi, ditemukan 17 isolat bakteri yang terdiri atas 13 isolat Gram negatif (76,47%) dan 4 isolat Gram positif (23,53%). Sebagian besar isolat tergolong bakteri patogen oportunistik, antara lain *Escherichia coli*, *Enterobacter cloacae*, *Klebsiella pneumoniae* subsp. *pneumoniae*, *Pantoea agglomerans*, *Stenotrophomonas maltophilia*, *Morganella morganii*, *Serratia marcescens*, *Aerococcus viridans*, dan *Staphylococcus warneri*. Dominasi bakteri Gram negatif serta ditemukannya bakteri pada sampel susu dan lingkungan mengindikasikan adanya potensi keterkaitan antara kondisi lingkungan peternakan, praktik higiene pemerahan, dan kontaminasi mikrobiologis susu kambing segar. Bakteri yang ditemukan bervariasi antarpeternakan dan ditemukan baik pada sampel susu maupun lingkungan peternakan. Hasil penelitian ini memberikan gambaran mengenai komposisi dan distribusi bakteri oportunistik kontaminan pada susu kambing segar di Sleman sebagai dasar perbaikan praktik higiene dan sanitasi peternakan serta mitigasi risiko keamanan pangan.

Kata kunci: bakteri oportunistik kontaminan, kambing Sapera, keamanan pangan, Sensititre, susu kambing segar

ABSTRACT

COMPOSITION AND DISTRIBUTION OF OPPORTUNISTIC CONTAMINANT BACTERIA IN FRESH GOAT MILK IN SLEMAN, SPECIAL REGION OF YOGYAKARTA

Dinda Liya Zafirah
NIM. 22/493900/KH/11232

Fresh goat milk is an animal-derived food product with high nutritional value, but it is easily contaminated by microorganisms, which can pose health risks to consumers. This study aimed to analyze the composition and distribution of opportunistic contaminant bacteria in fresh goat milk and related farm environmental samples collected from seven dairy goat farms in Sleman Regency. A total of 120 milk samples, along with 7 environmental swabs, 7 workers' hand swabs, and 7 drinking water samples, were examined. Bacterial isolation was carried out using Nutrient Agar (NA), Baird-Parker Agar (BPA), and Sorbitol MacConkey Agar (SMAC). Identification was performed through Gram staining, biochemical tests (catalase, coagulase, and IMViC), and confirmed using the Sensititre® GN-ID and GP-ID systems (Thermo Scientific). A total of 17 bacterial isolates were identified, consisting of 13 Gram-negative (76.47%) and 4 Gram-positive (23.53%) isolates. Most of the isolates were opportunistic pathogens, including *Escherichia coli*, *Enterobacter cloacae*, *Klebsiella pneumoniae* subsp. *pneumoniae*, *Pantoea agglomerans*, *Stenotrophomonas maltophilia*, *Morganella morganii*, *Serratia marcescens*, *Aerococcus viridans*, and *Staphylococcus warneri*. The dominance of Gram-negative bacteria and the presence of similar bacteria in both milk and environmental samples suggest that farm hygiene and milking practices may play an important role in milk contamination. Bacterial species varied across farms, indicating different sources and levels of contamination. These findings provide a baseline overview of bacterial contamination in fresh goat milk in Sleman and may be useful for improving hygiene practices and reducing food safety risks.

Keywords: fresh goat milk, food safety, opportunistic contaminant bacteria, Sapera goats, Sensititre