

## EVALUASI KUALITAS DAN CEMARAN BAKTERI *Escherichia coli* PADA SUSU SAPI SEGAR DARI PETERNAKAN SAPI PERAH "XX" DI KECAMATAN CANGKRINGAN

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### INTISARI

Susu sapi segar merupakan produk pangan bernilai gizi tinggi yang rentan terkontaminasi mikroba, salah satunya bakteri *Escherichia coli* (*E. coli*). Keberadaan *E. coli* dalam susu dapat menjadi indikator sanitasi yang buruk serta berpotensi menyebabkan gangguan kesehatan pada manusia. Penyusunan Tugas Akhir ini bertujuan untuk mengevaluasi kualitas, total mikroba, dan tingkat cemaran *E. coli* pada 24 sampel susu sapi segar yang diperoleh dari peternakan sapi perah "XX" di wilayah Kecamatan Cangkringan. Metode yang digunakan meliputi uji organoleptik, uji *Total Plate Count* (TPC), dan uji identifikasi bakteri *E. coli* dengan metode *Most Probable Number* (MPN). Analisis data dilakukan secara analisis kualitatif. Hasil analisis pada masing-masing parameter pada uji organoleptik menunjukkan bahwa 22 dari 24 sampel (92%) berwarna normal, 23 dari 24 sampel (96%) berbau normal, sedangkan 24 sampel (100%) memiliki rasa dan konsistensi normal. Hasil pengujian susu sapi segar berdasarkan uji TPC dan MPN *E. coli* menunjukkan bahwa sebanyak 2 sampel (8%) memenuhi Batas Maksimum Cemaran Mikroba (BMCM) uji TPC, namun tidak memenuhi BMCM MPN *E. coli*. Sebanyak 22 dari 24 sampel (92%) tidak memenuhi BMCM dari kedua pengujian yaitu BMCM uji TPC menurut SNI 3141.1:2011 dan tidak memenuhi BMCM MPN *E. coli* menurut SNI 7388:2009. Sebagian besar sampel susu sapi segar dari peternakan "XX" di Kecamatan Cangkringan tidak memenuhi BMCM, meskipun kualitas organoleptiknya tergolong baik. Penerapan higiene dan sanitasi dalam proses produksi susu perlu ditingkatkan secara optimal untuk menurunkan tingkat kontaminasi mikroba dan memastikan keamanan produk sesuai standar.

**Kata Kunci:** kontaminasi, *Escherichia coli*, susu sapi segar, mikroba, kualitas

**EVALUATION OF QUALITY AND CONTAMINATION OF *Escherichia coli* BACTERIAL IN FRESH COW'S MILK FROM DAIRY FARM "XX" AT CANGKRINGAN SUBDISTRICT**

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**ABSTRACT**

Fresh cow's milk is a highly nutritious food product that is susceptible to microbial contamination, including *Escherichia coli* (*E. coli*) bacteria. The presence of *E. coli* in milk can be an indicator of poor sanitation and may potentially cause health problems in humans. This study aimed to evaluate the quality, total microbial count, and *E. coli* contamination levels in 24 samples of fresh cow's milk obtained from the "XX" dairy farm in the Cangkringan subdistrict. The methods used include organoleptic testing, *Total Plate Count* (TPC) testing, and *E. coli* bacterial identification using the *Most Probable Number* (MPN) method. Data analysis was conducted using qualitative analysis. The analysis results for each parameter in the organoleptic test showed that 22 out of 24 samples (92%) with normal colour, 23 out of 24 samples (96%) with normal odor, while all 24 samples (100%) with normal taste and consistency. The results of fresh cow's milk testing based on TPC and MPN *E. coli* tests showed that 2 samples (8%) was included the maximum microbial contamination limit (BMCM) TPC test, but did not comply the MPN *E. coli* BMCM. Twenty-two out of 24 samples (92%) did not meet the BMCM of both tests, the BMCM TPC test according to SNI 3141.1:2011 and did not meet the BMCM MPN *E. coli* according to SNI 7388:2009. Most of the fresh cow milk samples from "XX" farm in Cangkringan subdistrict did not comply BMCM standards, even though their organoleptic quality was relatively good. Hygiene and sanitation in the milk production process need to be optimally improved to reduce microbial contamination and ensure product safety in accordance with standards.

**Keywords:** contamination, *Escherichia coli*, fresh cow milk, microbial, quality