Analisis Mutu dan Identifikasi Cemaran Bakteri Escherichia coli pada Bakso Sapi di Beberapa Pasar di
Kota Yogyakarta
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ANALISIS MUTU DAN IDENTIFIKASI CEMARAN BAKTERI *Escherichia coli* PADA BAKSO SAPI DI BEBERAPA PASAR DI KOTA YOGYAKARTA

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INTISARI

Bakso sapi merupakan salah satu produk olahan pangan asal hewan yang banyak diminati masyarakat Indonesia, namun memiliki risiko tinggi terhadap kontaminasi bakteri *Escherichia coli* (*E. coli)* akibat kurang optimalnya penerapan higiene dan sanitasi selama proses pengolahan, penyimpanan, dan distribusi. Penyusunan Tugas Akhir ini bertujuan untuk menganalisis kualitas dan mutu bakso daging sapi yang diperjualbelikan di beberapa pasar di Kota Yogyakarta melalui pengujian organoleptik, isolasi dan identifikasi cemaran *E. coli*, pewarnaan Gram, serta penilaian penerapan higiene sanitasi. Pengambilan data menggunakan metode *purposive sampling* dengan jumlah sampel sebanyak 15 sampel. Hasil uji organoleptik dari 32 panelis menujukkan rata rata parameter warna abu kecoklatan serta cukup merata (2,65±0,84), aroma khas daging hampir hilang (3,19±0,32), tekstur cukup kenyal namun tidak kompak (2,91±0,57), rasa spesifik daging cukup kuat (2,70±0,46), dan parameter daya terima oleh panelis tergolong cukup disukai (2,90±0,55). Hasil isolasi dan identifikasi cemaran *E. coli* menunjukkan sebanyak 23 dari 30 sampel (77%) positif mengandung *E. coli* yang ditandai dengan tumbuhnya koloni berwarna hijau metalik pada media EMBA, sedangkan 7 dari 30 sampel (23%) menunjukkan hasil negatif. Hasil penilaian penerapan higiene dan sanitasi pedagang bakso yang dianalisis secara deskriptif kuantitatif menunjukkan bahwa tidak terdapat hubungan yang signifikan antara higiene dan sanitasi personel ($p > 0,05$), higiene dan sanitasi produk ($p > 0,05$), serta higiene dan sanitasi lokasi ($p > 0,05$) terhadap tingkat cemaran *E. coli* pada produk bakso. Meskipun penerapan higiene dan sanitasi pedagang bakso di pasar Kota Yogyakarta tidak signifikan terhadap kualitas produk bakso daging sapi, namun diperlukan peningkatan upaya untuk menjamin keamanan pangan yang beredar di masyarakat.

Kata kunci: bakso sapi, cemaran mikroba, *Escherichia coli*, higiene, keamanan pangan

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QUALITY ANALYSIS AND IDENTIFICATION OF *Escherichia coli* CONTAMINATION IN BEEF MEETBALS FROM SEVERAL MARKETS IN YOGYAKARTA CITY

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ABSTRACT

Beef meatballs are one of the most popular animal-based processed food products in Indonesia. However, they have a high risk of contamination by *Escherichia coli* (*E. coli)* due to inadequate implementation of hygiene and sanitation practices during processing, storage, and distribution. This final project aimed to analyze the quality and safety of beef meatballs sold in several markets in Yogyakarta City through organoleptic testing, isolation and identification of *E. coli* contamination, Gram staining, and assessment of hygiene and sanitation practices. Data collection was conducted using a purposive sampling method with a total of 15 samples. The organoleptic evaluation, involving 32 semi-trained panelists, showed that the meatballs had a grayish-brown and fairly uniform color (2.65 ± 0.84), a characteristic meat aroma that was almost undetectable (3.19 ± 0.32), a moderately chewy but less compact texture (2.91 ± 0.57), a moderately strong characteristic meat flavor (2.70 ± 0.46), and an overall acceptability score indicating that the product was moderately liked by the panelists (2.90 ± 0.55). The results of *E. coli* isolation and identification revealed that 23 out of 30 samples (77%) tested positive for *E. coli*, as indicated by the growth of metallic green colonies on Eosin Methylene Blue Agar (EMBA), while 7 out of 30 samples (23%) tested negative. The assessment of meatball vendors' hygiene and sanitation practices, analyzed using descriptive quantitative methods, showed no significant association between personal hygiene and sanitation ($p > 0.05$), product hygiene and sanitation ($p > 0.05$), and environmental hygiene and sanitation ($p > 0.05$) and the level of *E. coli* contamination in meatball products. Although the implementation of hygiene and sanitation practices among meatball vendors in Yogyakarta City was not significantly associated with the quality of beef meatball products, continuous improvement in hygiene and sanitation practices remains necessary to ensure the safety of food products distributed to the community.

Keywords: beef meetball, microbial contamination, *Escherichia coli*, hygiene, food safety