

ANALISIS *TOTAL PLATE COUNT* DAN IDENTIFIKASI CEMARAN BAKTERI *Escherichia coli*, FORMALIN, DAN BORAKS PADA BAKSO YANG DIJUAL DI WARUNG BAKSO

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INTISARI

Bakso merupakan salah satu produk olahan daging yang sangat diminati masyarakat Indonesia. Bakso sangat rentan terhadap pertumbuhan mikroorganisme. Penggunaan zat kimia berbahaya seperti formalin dan boraks sering ditambahkan oleh pedagang bakso untuk memperpanjang masa simpan dan menambah tekstur kenyal pada bakso. Penyusunan Tugas Akhir ini bertujuan untuk mengetahui jumlah total mikroba dan mendeteksi adanya cemarkan bakteri *Escherichia coli* (*E. coli*), penambahan formalin, dan boraks pada bakso yang dijual di warung bakso. Sampel bakso diambil dari 20 warung bakso di wilayah Kabupaten Klaten. Pengujian yang dilakukan meliputi uji *Total Plate Count* (TPC), deteksi bakteri *E. coli* menggunakan media *Mac Conkey Agar* (MCA) dan *Eosin Methylene Blue Agar* (EMBA). Pengujian formalin menggunakan *test kit* reagen formalin, dan pengujian boraks menggunakan kertas turmerik. Data dianalisis secara deskriptif serta disajikan dalam bentuk diagram dan tabel. Hasil pengujian menunjukkan 90% jumlah total mikroba pada bakso melebihi batas SNI 3818:2014 (1×10^5 CFU/g). Sebanyak 30% sampel bakso terdeteksi adanya cemarkan bakteri *E. coli*. Hasil uji formalin dan boraks, menunjukkan 85% sampel bakso positif mengandung formalin dan 100% sampel bakso tidak mengandung boraks. Produsen dan konsumen perlu mengetahui pentingnya keamanan pangan untuk mencegah bahaya kontaminasi bakteri dan penggunaan bahan tambahan pangan.

Kata Kunci: bakso, boraks, *E. coli*, formalin, TPC

**ANALYSIS OF TOTAL PLATE COUNT AND IDENTIFICATION OF
BACTERIAL CONTAMINATION OF *Escherichia coli*, FORMALIN, AND
BORAX IN MEATBALLS SOLD AT MEATBALL STALL**

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ABSTRACT

Meatballs are a processed meat product that is very popular with Indonesians. Meatballs are very susceptible to the growth of microorganisms. Meatball traders are often added harmful chemicals such as formalin and borax to extend the shelf life and add a chewy texture to the meatballs. The study aims to determine the total number of microbes and detect the presence of *Escherichia coli* (*E. coli*) bacterial contamination, the addition of formalin, and borax to meatballs sold in meatball stalls. Meatball samples were taken from 20 meatball stalls in the Klaten Regency area. The tests carried out included the Total Plate Count (TPC) test, detection of *E. coli* bacteria using Mac Conkey Agar (MCA) and Eosin Methylene Blue Agar (EMBA) media. Formalin testing used a formalin reagent test kit, and borax testing used turmeric paper. The data were analyzed descriptively and presented in the form of diagrams and tables. The bacterial number test results showed that 90% of the total microbes in meatballs exceeded the SNI 3818:2014 limit (1×10^5 CFU/g). As many as 30% of meatball samples were detected with *E. coli* bacterial contamination. The formalin and borax test result showed that 85% of the meatball samples were positive for formalin and 100% of the meatball samples did not contain borax. Producers and consumers need to know the importance of food safety to prevent the dangers of bacterial contamination and the use of food additives.

Keywords: borax, *E. coli*, formalin, meatball, TPC