

UZORKOVANJE BRISOM SA POVRŠINA I OPORAVAK *ESCHERICHIA COLI*

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Sažetak: Površine koje dolaze u kontakt sa hranom mogu biti izvor kontaminacije mikroorganizmima tokom proizvodnje, prerade, pakovanja i serviranja hrane. Značaj i posljedice kontaminacije procjenjuju se na osnovu broja prisutnih mikroorganizama ili otkrivanja patogenih mikroorganizama. U ovoj studiji provedena je vještačka kontaminacija površine aluminijumske folije koja se koristi u domaćinstvu. Za kontaminaciju je pripremljena prekonoćna suspenzija *Escherichia coli* ATCC 8739 u tripton soja bujonu (TSB). Sa vještački kontaminirane površine 10 x 10 cm² uzorkovane su dve manje površine pomoću dva zasebna bris štapića. Prvo je uzorkovano jednim brisom koristeći okvir od nerđajućeg čelika (4 cm x 5 cm) za određivanje ukupnog broja aerobnih mikroorganizama. Drugi bris je korišćen za uzorkovanje sa druge kontaminirane površine od 20 cm² i određivanje broja *Enterobacteriaceae*. Podloga za ukupan broj (PCA) je korišćena za određivanje ukupnog broja mikroorganizama, a ljubičasto crveni laktoza žučni agar (VRBGA) je korišćen za određivanje *Enterobacteriaceae*. Inkubacija petri šolja je bila na 30 °C. Ovaj proces je ponovljen na 16 kontaminiranih površina. Na osnovu poređenja sa procenjenim brojem *Escherichia coli* u suspenziji za kontaminaciju, oporavak *Escherichia coli* nakon uzorkovanja brisom bio je manji od 60% kako za PCA tako i za VRBGA. Na osnovu dobijenih rezultata, u radu se razmatra eksperimentalni dizajn i efektivnost uzorkovanja brisom sa površina koje dolaze u kontakt sa hranom.

Ključne riječi: bris, *Escherichia coli*, površine koje dolaze u konakt sa hranom

SURFACE SWAB SAMPLING AND RECOVERY OF *ESCHERICHIA COLI*

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Abstract: The surface that comes into contact with food can be a source of contamination by microorganisms during the production, processing, packaging, and serving of food. The importance and consequences of contamination can be assessed based on the number of microorganisms present or the detection of pathogenic microorganisms. This study was performed on artificial surface contamination of household aluminum foil. For contamination, an overnight suspension of *Escherichia coli* ATCC 8739 was prepared in Tryptone soy broth. From artificially soiled surfaces measuring 10x10 cm², two smaller surface areas were sampled with separated swabs. The first was sampled one swab using a small stainless steel frame (4 cm x 5 cm) for estimation of the total count of aerobic microorganisms. A second swab was used for sampling from another contaminated surface of 20 cm² for estimation of the number of *Enterobacteriaceae*. Plate count agar (PCA) and Violet red bile glucose agar (VRBGA) were used for a total count of microorganisms and *Enterobacteriaceae*, respectively. Petri dishes were incubated at a temperature of 30 °C. The process was repeated on 16 contaminated surfaces. Compared to the estimated number of *Escherichia coli* in soiling suspension the recovery of swabbing was less than 60% for the count *Escherichia coli* on PCA as well as on VRBGA. This finding indicates the effectiveness of swab sampling and that findings of the presence of microorganisms on surfaces that come into contact with food require special attention.

Key words: *Escherichia coli*, surfaces that come into contact with food, swab