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COMPARISON OF CULTURE MEDIA USED IN COLIFORM ANALYSIS VIA MEMBRANE FILTRATION TECHNIQUE

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In this study, 46 coliform group bacteria which were isolated from various foods, were analyzed on 4 different culture media such as Tergitol TTC NKS, Endo NKS and mFC NKS that are selective for coliform group and at 2 different incubation temperatures such as 37 and 44.5°C with the control media PCA. Besides, 3 mixed cultures of those isolates were also analyzed. According to the results obtained from pure cultures, no difference was found between the culture media (P>0.01) however, the temperature factor was found as effective (P<0.01) depending on the bacterial species. While fecal coliform *Escherichia coli* (30 isolates) gave the same number of colonies at the temperatures of 37 and 44.5°C, different incubation temperatures were found as effective for *Enterobacter aerogenes* (8 isolates) and *Klebsiella pneumonia* (6 of 7 isolates) and *Citrobacter freundii* (1 isolate) and these bacteria could not grow at 44.5°C. One *Klebsiella pneumonia* isolate that showed a fecal coliform characteristic grew easily at 44.5°C. While there was no difference between the culture media in mixed culture studies (P> 0.01), the temperature differences were found as effective (P <0.01). According to the findings, no difference found between 3 different selective media. No significant difference was found between the morphological images of 4 different coliform group bacteria on the same selective medium during the subjective (visual) evaluation.

Keywords: Coliforms, fecal coliforms, *E. coli*, membrane filtration, culture media

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