

ABSTRACT

Nike Nugraheni, NIM : 1534018, 2019, The different numbers of *Escherichia coli* colonies on *Plate Count Agar* (PCA) culture medium which treated at pH of 4, 7, and 9, with a specific incubation temperature of 37°C. Bachelor Thesis of DIV Medical Analysis, Faculty of Medical Science, Universitas Katolik Musi Charitas Palembang.

Background: The optimum pH for growing *Escherichia coli* colonies was reported at pH of 7.0. However, most of analyst did not carefully adjust the pH on culture medium preparation. This study was conducted to investigate the effect of medium pH (4, 7, and 9) in the numbers of *Escherichia coli* colonies growth on Plate Count Agar Media.

Method: The type of this research was true experimental with randomized post-test only control design. This research was conducted by adjusting a specific culture medium pH of Plate Count Agar at 4, 6, and 9 in which each pH condition had 15 drop groups. The inoculation condition was set at the temperature of 37°C. The obtained data were then analyzed using a paired t-test with a confident level of 95 %.

Result: The result showed that there were no *Escherichia coli* found at pH 4, while at pH 7 and 9, the numbers of *Escherichia coli* colonies were 95,53 CFU/mL and 76,20 CFU/mL, respectively. Furthermore, the statistical analysis demonstrated p-value of 0,002 at pH 7 and 9 which mean pH 7 and 9 provided a significant effect on the growing of *Escherichia coli*.

Conclusion : There was a significant different number of *Escherichia coli* colonies on *Plate Count Agar* (PCA) medium which have the specific pH of 7 and 9 at a temperature of 37°C. It was supported by the statistical analysis shown the significant value of 0,002.

Keywords : *Plate Count Agar* pH 4, pH 7 and pH 9, *Escherichia coli*