

MOST PROBABLE NUMBER OF *Escherichia coli* ON BEEF SOAKED IN CHITOSAN SOLUTION

Ratih Novita Praja

ABSTRACT

The problem in food health is the high amount of bacterial contamination of food that served by food industries. *Escherichia coli* and *Coliform* has been used as sanitary indicator of a food processing industries. The detection of food borne disease, including those capable of infecting such as *Escherichia coli* have also been conducted. This study was aimed to determine effectiveness of chitosan as an antibacterial against *Escherichia coli* on beef. The methods used in this research was Most Probable Number (MPN). This research consists of 5 treatments (P0, P1, P2, P3, and P4) with 4 replications. P0 as the control, P1 chitosan solution 1%, P2 chitosan solution 2%, P3 chitosan solution 3%, and P4 chitosan solution 4%. The data were analyzed using Kruskal-Wallis test and continue with Mann-Whitney Test to find the difference between control and treatment. The results showed that P1 gave the greatest effect among all treatments because with the lowest concentration (1%), it can reduce the number of *Escherichia coli* to zero. It could be concluded that chitosan is effective to reduce the *Escherichia coli* number on beef.

Key words: Chitosan, Beef, *Escherichia coli*, Most Probable Number