

## ABSTRACT

### TOTAL PLATE COUNT (TPC) TEST on SIMPLISIA of LINGZHI MUSHROOM (*Ganoderma lucidum*)

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*Ganoderma lucidum* contains chemical compounds such as triterpenoids, polysaccharides, proteins, amino acids, nucleosides, alkaloids, steroids, lactones, lectins, and fatty acids. Lingzhi mushrooms can be dried and ground into powder, then marketed as supplements or herbal infusions. The aim of this research is to determine the Total Plate Count (TPC) of bacteria in *Ganoderma lucidum* mushrooms. This study utilizes the ALT method. The ALT method involves taking 25 grams of powdered *Ganoderma lucidum*, which is then diluted with 225 ml of 0.9% NaCl solution ( $10^{-1}$  dilution), and further diluted to  $10^{-6}$  dilution. One milliliter of dilutions  $10^{-4}$  to  $10^{-6}$  is taken and plated onto petri dishes. Then, 20 ml of PCA medium is added to the petri dishes and incubated for 24 hours at 37°C. The result of this study is  $6.4 \times 10^6$  colonies/gram. This result does not meet the microbial contamination limits set by the National Agency of Drug and Food Control (BPOM). In macroscopic observation, the notable difference lies in the diameter characteristics of the colonies. Three colonies have a diameter of 0.11 mm, while one bacterium has a diameter of 0.56 mm. All four colonies share the same characteristics (shape, edge, color, elevation), which are circular, entire, white, and flat. In microscopic observation, there is a difference in bacterial groups. One bacterium belongs to the Gram-negative group, appearing red and rod-shaped. The other three bacteria are Gram-positive and purple in color. Among these, one bacterium is rod-shaped, while the other two are cocci-shaped.

**Keywords** : *Ganoderma lucidum*, ALT, PCA, 0.9% NaCl, Microscopic, Macroscopic.