

Development of Traditional Antimicrobial Packaging Based on Banana Leaf with Propolis and ZnO Nanoparticles Coating

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Abstract- Banana leaf have many beneficial effects for several uses, such as wrapping food. Especially in Indonesia, banana leaf has been used to wrap many traditional foods. *Lemper* is a traditional appetizer made from glutinous rice with chicken filling wrapped in banana leaf. However, there is an adverse effect of the usage of banana leaf as traditional packaging which was a short shelf life. Therefore, the purpose of this research is to preserve the usage of banana leaf by developing antimicrobial packaging to prolong the shelf life of the products. The methods of this study investigated the antimicrobial features of propolis 3% combined with ZnO nanoparticles 0.007 gr as a coating in banana leaf. The antimicrobial activities, phychochemical properties, FTIR, and SEM were analyzed. Through this research, coated banana leaf is expected to be able to elongated the shelf life of foods.

Keywords: Banana leaf, Propolis, ZnO Nanoparticle, Food Packaging, Antimicrobial.