

## **ABSTRACT**

*The research aimed to find out the best concentration from various lemon essential oil and cinnamon essential oil concentration as antimicrobial agent to inhibit the growth of microbial decomposition on the quality of papaya fresh-cut. The experiment was designed with Completely Randomized Design single factor using six treatments as follows: 1) alginate 2% + lemon essential oil 2%, 2) alginate 2% + lemon essential oil 3%, 3) alginate 2% + cinnamon essential oil 0,7%, 4) alginate 2% + cinnamon essential oil 1,5%, 5) alginate 2%, and 6) without alginate and essential oil. Use of alginate 2% + lemon essential oil 3% could maintain chemical quality (total soluble solids content and vitamin C), and organoleptic test on papaya fresh-cut. The result indicated that alginated 2% + lemon essential oil 3% could maintain quality of papaya fresh-cut for 6 days.*

*Keywords: Lemon essential oil, Cinnamon essential oil, Fresh-cut papaya, Alginate*