**ABSTRACT**

The research aimed to study *Averrhoa bilimbi* L extract immersed in edible coating, i.e. chitosan to prevent microbial attack on tomatoes. The extract was obtained from leaves of *Averrhoa bilimbi* L using maseration method. The experiment was designed with Completely Randomized Design using three treatments as follows: (1) Chitosan as edible coating, (2) Extract of *Averrhoa bilimbi* L as antimicrobial smeared onto tomatoes, and (3) Chitosan mixed with extract of *Averrhoa bilimbi* L and used as edible coating. Analysis used to test the quality of tomatoes were: hardness, weight loss, colour, titrable acid, ascorbic acid, sugar and microbial attack. Result showed that chitosan mixed with extract of *Averrhoa bilimbi* L and used as edible coating gave the best result in maintaining quality of tomatoes based on analysis on hardness, weight loss, colour, titrable acid; ascorbic acid and sugar. Extract of *Averrhoa bilimbi* L was succeed in prolong the shelf life on tomatoes into 25 days and prevented microbial attack.

**Key Words:** Edible coating, Kitosan, *Averrhoa bilimbi*, Shelf Life, Tomatoes.