

THE STUDY ON LIME FRUIT PRESERVATION BY USING OF SURFACE COATINGS AND COMBINATION WITH GIBBERELIC ACID ADDING

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Summary

The purpose of this study was to evaluate the preservative effect of some fruit coatings on lime and the additional effect of their combination with gibberellin acid (GA₃) at different concentrations. According to the results obtained, the composite with composition of 6% HPMC plus 3% carnauba wax effectively express the effectiveness onto lime fruits better than 1.5% chitosan and composite 1.5% chitosan plus 1.0% oleic acid. With application of composite coating HPMC 6% + 3% Carnauba, the shelf-life of lime fruits have been extended to at least 20 days under ambient conditions. After storage, the composite coating has reduced the change in fruit peel colour ($\Delta E = 18.05$ vs. 44.37 of control fruits), hardness (4.31 kg/cm² vs. 2.73 of control), weight loss (3.21% vs. 6.31% of control), decay rate (7.96% vs. 22.52% of control), sensory quality marks (16.8 vs. 9.4 of control), and some chemical properties. The effectiveness of this composite products was enhanced when combined with GA₃ at concentrations of 100 ppm. When adding GA₃ on composite products and use on fruit, peel color and sensory quality of the lime were the most significant improvement.

Keywords: *Carnauba wax, gibberellic acid, chitosan, HPMC, lime fruits, storage.*