

**APLIKASI *EDIBLE COATING* BERBASIS KELAPA SAWIT UNTUK
MEMPERPANJANG UMUR SIMPAN BUAH NANAS (*Ananas comosus* (L.)
Merr.) DI PT GREAT GIANT PINEAPPLE LAMPUNG**

INTISARI

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Indonesia merupakan negara penghasil nanas terbesar keempat di dunia. Hal ini membuat nanas banyak diekspor ke mancanegara termasuk Asia, Eropa, dan Amerika. Lamanya pengiriman ekspor menyebabkan penurunan kualitas yang mengakibatkan kondisi nanas yang buruk di negara-negara yang jauh. Permasalahan tersebut mendorong perlunya teknologi pendukung untuk memperpanjang umur simpan, salah satunya adalah *edible coating*. Penelitian ini bertujuan untuk mengevaluasi pengaruh aplikasi *edible coating* terhadap sifat fisikokimia nanas MD2 guna memperpanjang umur simpannya. Perlakuan tersebut adalah A (Kontrol: tanpa *edible coating*), B (*edible coating* berbasis kelapa sawit), C (*edible coating* Sta-Fresh 2952), D (*edible coating* OE-6012) yang semuanya disimpan dalam *cold storage* ($7 \pm 0,5^{\circ}\text{C}$) dan suhu ruang ($25 \pm 0,5^{\circ}\text{C}$).

Hasil penelitian ini berupa kualitas masing-masing bahan *edible coating* yang digunakan dan aplikasi bahan-bahan *edible coating* tersebut terhadap perubahan sifat fisik buah nanas. Kualitas bahan *edible coating* dianalisis berdasarkan sudut kontak dan *Scanning Electron Microscope* (SEM) pada permukaan kulit nanas. Sedangkan perubahan sifat fisik nanas selama penyimpanan dianalisis berdasarkan *shell colour*, susut bobot, laju respirasi, total padatan terlarut (brix), dan keasaman. *Edible coating* Sta-Fresh 2952 memiliki sudut kontak terkecil sebesar 24.67° sehingga memiliki daya sebar dan rekat yang terbaik terhadap permukaan nanas. Sedangkan pada uji *scanning electron microscope* (SEM), hasil menunjukkan bahwa *edible coating* berbasis kelapa sawit dapat menutup permukaan nanas paling baik yang dinilai berdasarkan sedikitnya stomata yang tampak. Diantara semua parameter kualitas nanas (*shell colour*, susut bobot, kekerasan, laju respirasi, brix dan keasaman), *edible coating* hanya berpengaruh signifikan ($P < 0,05$) terhadap parameter laju respirasi dan susut bobot. Pada laju respirasi, perlakuan *edible coating* berbasis kelapa sawit menunjukkan hasil terbaik dikarenakan laju respirasinya yang rendah. Sedangkan parameter susut bobot paling baik pada nanas yang diberi *edible coating* Sta-Fresh 2952 dikarenakan memiliki penyusutan bobot paling kecil.

Kata kunci: *Cold Storage*, Respirasi, Susut Bobot

**PALM OIL-BASED EDIBLE COATING APPLICATIONS TO MAINTAIN
THE SHELF LIFE OF PINEAPPLE (*Ananas comosus* (L.) Merr.) AT PT
GREAT GIANT PINEAPPLE LAMPUNG**

ABSTRACT

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Indonesia is the fourth largest pineapple producing country in the world. This makes pineapple widely exported to foreign countries including Asia, Europe, and America. The length of time for export shipments leads to a decrease in quality resulting in poor pineapple conditions in faraway countries. These problems encourage the need for supporting technology to extend shelf life, one of which is edible coating. This study aims to evaluate the effect of edible coating application on the physicochemical properties of MD2 pineapple in order to extend its shelf life. The treatments were A (Control: without edible coating), B (palm oil-based edible coating), C (Edible coating Sta-Fresh 2952), D (edible coating OE-6012) all of which were stored in cold storage ($7 \pm 0, 5^{\circ}\text{C}$) and room temperature ($25 \pm 0.5^{\circ}\text{C}$).

The results of this study are the quality of each edible coating material used and the application of these edible coating materials to changes in the physical properties of pineapple. The quality of the edible coating material was analyzed based on the contact angle and scanning electron microscope (SEM) on the surface of the pineapple skin. While changes in the physical properties of pineapple during storage were analyzed based on shell color, weight loss, respiration rate, total dissolved solids (brix), and acidity. Edible coating Sta-Fresh 2952 has the smallest contact angle of 24.67° so that it has the best dispersion and adhesion to the pineapple surface. Meanwhile, in the scanning electron microscope (SEM) test, the results showed that palm oil-based edible coatings could best cover the surface of the pineapple, which was judged based on the least visible stomata. Among all pineapple quality parameters (shell colour, weight loss, firmness, respiration rate, brix and acidity), edible coating only had a significant effect ($P < 0.05$) on the respiration rate and weight loss parameters. In respiration rate, edible coating treatment based on palm oil showed the best results due to its low respiration rate. Meanwhile, the best weight loss parameter was in pineapple that was given Sta-Fresh 2952 edible coating because it had the smallest weight loss.

Keywords: Cold Storage, Respiration, Weight Loss