INTISARI

PERUBAHAN SIFAT FISIK, MEKANIK, HIDRODINAMIK DAN REOLOGI BUAH JERUK SIAM (*Citrus nobilis* Lour) SELAMA PROSES *DEGREENING* DIBAWAH PENGARUH KONSENTRASI DAN LAMA PEMAPARAN GAS ETILEN

Jeruk siam merupakan buah lokal yang memiliki kulit berwarna hijau. Jeruk dengan warna kuning atau jingga lebih disukai oleh konsumen. Perombakan warna kulit jeruk dapat dilakukan dengan proses *degreening.* Proses *degreening* merupakan proses perombakan klorofil dan penambahan karatenoid untuk merubah warna jeruk yang hijau menjadi kuning atau jingga tanpa mengubah kualitas buah jeruk. Penelitian ini dilakukan untuk mengetahui proses *degreening* yang dilakukan dengan perlakuan variasi lama pemaparan gas etilen dan variasi konsentrasi gas etilen. Perlakuan yang diberikan yaitu lama pemaparan gas etilen selama 24 jam, 48 jam, dan 72 jam. Variasi konsentrasi gas etilen yang diberikan sebesar 0 ppm, 50 ppm, 100 ppm dan 150 ppm. Perubahan yang diukur yaitu sifat fisik, sifat mekanik, sifat hidrodinamis dan sifat reologi buah jeruk. Perlakuan lama penyimpanan berlaku secara signifikan terhadap semua parameter.

Kata Kunci: *degreening,* sifat mekanis, reologi, hidrodinamis, konsentrasi etilen

ABSTRACT

CHANGES IN THE PHYSICAL, MECHANICAL, HYDRODYNAMIC AND REOLOGICAL PROPERTIES OF SIAM ORANGE (Citrus nobilis Lour*) DURING THE DEGREENING PROCESS DUE TO CONCENTRATION AND LONG TIME EXPOSURE TO ETHYLENE GAS*

Siamese orange is a local fruit that has green skin. Oranges with yellow or orange colours are preferred by consumers. Changing the colour of orange peel can be done by degreening process. The degreening process is a process of overhauling chlorophyll and adding carotenoids to change the color of oranges from green to yellow or orange without changing the quality of citrus fruits. This research was conducted to determine the degreening process which was carried out by treating variations in the length of exposure to ethylene gas and variations in the concentration of ethylene gas. The treatment given was the length of exposure to ethylene gas for 24 hours, 48 hours and 72 hours. Variations in the concentration of ethylene gas given were 0 ppm, 50 ppm, 100 ppm and 150 ppm. The changes measured were physical properties, mechanical properties, hydrodynamic properties and rheological properties of citrus fruits. Long storage treatment significantly affects all parameters.

Keyword: degreening, mechanical properties, rheology, hydrodynamics, ethylene concentration