ABSTRACT

CHEMICAL COMPOSITION CHANGES AND SHELF LIFE OF "MULI" BANANA (*Musa sp.)* AT THE AIR-CO_2 DYNAMIC CONDITIONS

By

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Muli banana *(Musa sp.)* was one of competitive valuable of commodities of Lampung Province. As a perishable commodity, Muli banana will continue its respiration and other metabolism process after picking it from the field. During postharvest processes, the product was releasing CO_2 and H_2O, and consuming O_2. After harvesting, the product would loss of performance such as peel color, which would change from yellow green to brown, even sometimes to black. The quality of the product was also decreased for only few days of storage. To overcome these problems, it was needed to look for handling alternative of the product.

The research aimed to study of the influence of temperature and air-CO_2 dynamic composition towards the chemical composition change and shelf life of Muli bananastored at the air-CO_2 dynamic conditions and different temperature. This research proposed to inform about how to handle the product by storing it at the air-CO_2 dynamic conditions and in different temperature.

The research was designed in two different temperatures treatments, those were room temperature (29°-32°C) and low temperature (10°C), and use four of air-CO_2 compositions treatments, those were 5% air-5% CO_2, 10% air-5%CO_2, 5% air-

10% CO_2, and 10% air-10%CO_2, respectively. The measured parameters were respiration rate, total soluble solid, and total acid.

The research showed that the Muli banana which stored at low temperatures and some air-CO_2 dynamic composition treatments could decreased its respiration rate, and could prolong its shelf life for as long as 10 days. The best air-CO_2 composition was 10% air-10% CO_2. The total soluble solid of fruit stored at room temperature was decreased faster than at low temperature. Total soluble solid of fruit control was higher than other treatments. The total acid of fruit stored at various gas (O_2-CO_2) composition at low temperature (10°C) was higher and it was decreased slowly than total acid of fruit stored at room temperature (29°-32°C). The shelf life of the fruit which stored at room temperature and low temperature was relatively same that was 10 days.

Keywords : Muli banana, air-CO_2 dynamic conditions, respiration, total soluble solid, total acid, shelf life.