Effect of Various Concentration of Ethyl Formate on Fresh Rambutan Fruit (Nephelium lappaceum L.) at Different Storage Temperature

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ABSTRACT

Ethyl Formate (EtF) is one of ripeness control technology with controlling hormone principle causes fruit ripeness (ethylene). This research aims to extend freshness and shelf life of harvested rambutan fruit by gas delivery methods with certain concentrations of ethyl formate at different storage temperatures. The experiment was conducted at Postharvest Research and Development Institute Pertanian Bogor in March to May 2015. This study used a completely randomized design factorial (RALF) consisting of two factors and two replications. The first factor was ethyl formate concentration (A) which consists of 4 levels (0 g/m^3; 7.7 g/m^3; 17.7 g/m^3; and 27.7 g/m^3). The second factor was storage temperature (B) which consists of 2 levels (room temperature and the temperature of air-conditioning). Parameter observations include: weight loss, color, moisture content, Dry Matter (DM), total acid, Total Soluble Solid (TSS), the ratio of sugar acid, and vitamin C. The results showed that the concentration of ethyl formate was highly significant effect (P > 0.01) for weight loss, color, moisture content, DM, total acid, TSS and sugar acid ratio. The best ethyl formate concentration that applied for rambutan fruit was 7.7 g/m^3. The storage temperature was highly significant (P> 0.01) for weight loss, color, moisture content, DM, and vitamin C; significant (P> 0.05) to total acid and sugar acid ratio. The best storage temperature for rambutan fruit was AC temperature. The combination factors were highly significant on weight loss, water content, DM, total acid, TSS and sugar acid ratio. The best combination of two factors on rambutan fruit were ethyl formate concentration of 7.7 g/m^3 in conditioning temperature storage.

Keywords: Rambutan, Ethyl Formate, Temperature Storage