

Kriengkrai Meethaworn 2011: Postharvest Biology of Young Coconut Fruit.  
Master of Science (Agriculture), Major Field: Horticulture, Department of  
Horticulture. Thesis Advisor: Professor Jingtair Siriphanich, Ph.D. 121 pages.

One and half (6.5 month from anthesis) or two (7 month from anthesis) layer kernel of young coconut had similar respiration rate. The intact fruit had respire at a rate of  $45 \text{ mgCO}_2\text{hr}^{-1}\text{kg}^{-1}$  at the beginning after that decreased and stable at  $25 \text{ mgCO}_2\text{hr}^{-1}\text{kg}^{-1}$ . The trimmed and ground fruit respire 2 and 2.5 times respectively of the intact fruit. Ethylene production of both layer kernel of young coconut the intact fruit was stable at  $200 \text{ nLC}_2\text{H}_2\text{kg}^{-1}\text{hr}^{-1}$ . The trimmed and ground fruit of one and half or two stage had similar rate averaged about 7 and 5 times respectively of the intact fruit. Chemical compositions change showed that. The SS stable at 7.6 °Brix and not difference in all condition. %TA stable about 0.07% and not difference except trimmed fruit and packing with vacuum. Dissolved oxygen the intact fruit had stable about 0.15  $\mu\text{l/L}$  dissolved  $\text{O}_2$ . Trimmed fruit had about 0.2-0.3  $\mu\text{l/L}$  while trimmed fruit and wrapped with any film had less than 0.1 ppm. At 25°C  $\text{O}_2$  could not be detected oxygen. At 25°C coconut in all form contain about 200-300 ppm alcohol slightly increased during storage. At 4°C alcohol concentrations were rather stable until after 21 days of storage the concentration increased. Malondialdehyde (MDA) content at 25°C slightly increased during storage in coconut of all forms. At 4°C MDA increased about by 50% higher than that at 25°C. Only saturated fatty acid was found in coconut water at the beginning. During storage small amount of unsaturated fatty acid was detected in the most fruit.

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Student's signature

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Thesis Advisor's signature