

**Title** Effect of the ventilation performance of corrugated fiberboard box on the quality of mango fruit

**Author** Ermia Sofivessi, Takayoshi Akinaga

**Citation** Program and Abstracts, 4<sup>th</sup> International Symposium on Tropical and Subtropical Fruits, November 3-7 2008, Bogor, Indonesia. 215 pages.

**Keyword** thermal properties; respiration; fruit quality; corrugated fiberboard boxes; mango

### **Abstract**

A comparison of the ventilation and thermal properties between Indonesian and Okinawa designed of corrugated fiber board shipping boxes for mangos were investigated, as well as the effect of ventilation on the respiration of fruits. The heat transmission coefficient was inversely proportional to thickness of the boxes. The Indonesian boxes had a large volume, bigger ventilation and lower CO<sub>2</sub> accumulation than Okinawan boxes.

The different diameter of vents had a significant effect on weight loss, moisture content, SSC and acidity. The increased diameter of vents tended to reduce the decline in moisture content, SSC and acidity under the experiment condition. An adequate ventilation hole designed for shipping corrugated fiberboard boxes under normal temperature transporting systems will provides information from the respiration properties of the packaged fruits and the strength of the boxes. The Indonesian-boxes for mango are able to improve the strength based on moisture absorption.