



Modified atmosphere conditions to export 'Keitt' mangos at advanced maturity

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The Brazilian Northeast, more specifically the San Francisco Valley, stands out as the most important mango producer and exporter region in the country. The increasing demand for higher quality and longer postharvest life mangos requires studies to develop new technologies that will allow harvesting fruit at more advanced ripeness to be shipped to distant markets. The objective of this study was to evaluate the efficiency of new modified atmosphere packages (MAPs) to maintain the postharvest quality of 'Keitt' mangos harvested at more advanced maturity. The experiment followed a completely randomized design with four replications and eight fruit per replication. The treatments were unpacked fruit (control), fruit packed in polyethylene bags with BreatheWay (BW) membranes presenting low (BWA 50%), medium (BWA) or high (BWB) permeability to O₂, with and without an It's Fresh ethylene absorption filter, and fruit packed in perforated polyethylene bags with It's Fresh ethylene absorption technology. Advanced maturity (i.e., low peel chlorophyll content) fruits were selected in the packinghouse with the DA-meter. Later, mangos were subjected to each treatment and stored at 9±0.5 °C with RH of 85-90% for 28 days plus 4 days of shelf life at 20±0.5 °C. The DA index was about 1.8 at harvest and decreased to about 0.6 after storage plus shelf life. The BWA 50% MAP showed the most effective inhibition of 'Keitt' mango ripening during storage and shelf life without any indication of atmosphere injury, independent of ethylene absorption, based on the DA ripening index.

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