



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

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Mango is a tropical fruit of great economic importance in Brazil. However, as a highly perishable climacteric fruit, mango ripens quickly after harvest, limiting its transport to distant markets. Technologies such as modified atmosphere packaging (MAP) and ethylene absorption can delay ripening and thereby offer high quality fruit in more distant markets. The objective of this study was to evaluate the efficiency of new modified atmosphere packages (MAPs), with or without ethylene absorption, to maintain the postharvest quality of 'Palmer' mangos harvested at more advanced ripeness. 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 BreathWay (BW) membranes presenting low (BWA 50%), medium (BWA) or high (BWB) permeability to O₂, with or without an It's Fresh ethylene absorption filter, and fruit packed in perforated polyethylene bags with It's Fresh ethylene absorption technology. Advanced ripeness (i.e., low peel chlorophyll content) fruit were selected in the packinghouse with a DA-meter. The fruit were stored for 28 days at 9°C with 90-95% relative humidity. Then, all MAPs were opened and the fruit kept for another 4 days at 20 °C to simulate the shelf life conditions. All MAPs, without ethylene absorption, were able to delay ripening and mass loss, compared to control fruit. The ripening index at harvest was 2.3. The control fruit reached ripeness indices of about 1.4 and 1.0 after 28 days of storage and 4 days of shelf life, respectively. Ethylene absorption had no effect on delaying 'Palmer' mango ripening.

Keywords: *Mangifera indica* L.; fruit ripening, ethylene absorption, San Francisco Valley.