

EFFECT OF OXALIC ACID, ETHANOL VAPOR AND PACKAGING ON POST HARVEST PERFORMANCES OF *Carica papaya* (VARIETY RED LADY)

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Papaya is the one of the 5 major crops of tropical and sub tropical region of the world. The fruit is well known functional food with a very good demand in the country. Marketing of fresh papaya has becoming a great problem, due to short shelf life and leading for high post harvest losses. Therefore the study was conducted to identify suitable pre-treatments with its concentration and suitable packing techniques for shelf life extension of papaya. Papaya fruits were harvested at correct maturity stage (25% yellow color strips on the fruit). Medium size fruits were selected after discarding diseased, damaged fruits and washed with 200 ppm chlorine solution. Fruits were treated with 3 ppm, 6 ppm, 9 ppm oxalic acid solution, ethanol vapor and untreated fruits kept as control. Treated fruits were stored in crates under ambient temperature conditions. Quality evaluation of fruits was determined by using physico-chemical parameters in two days intervals. Based on the overall performances 9 ppm oxalic acid treatment and ethanol vapor treatment were selected as the best treatments. The pre-treatments which were selected from above were subjected to different packaging techniques. The pre-treated fruits with 9 ppm oxalic acid and ethanol vapor were packed separately in Corrugated Fiber Board (CFB) boxes + Low Density Polyethylene (LDPE) lining, CFB boxes + LDPE lining + scavengers, CFB boxes + scavengers and CFB boxes that act as a control. Physico-chemical properties such as firmness, Total Soluble Solid, Physiological Loss in Weight, pH and titratable acidity were measured in 2 days intervals. Based on the overall performances CFB boxes + LDPE lining with scavengers were selected as the better performing packing techniques retaining most of the physiological and biochemical characteristics of fruits. Shelf life of papaya could be increased by using 9 ppm oxalic acid coupled with CFB boxes + LDPE lining + Scavengers.

Key words: Papaya, Shelf life, Treatments, Packing materials, Physico-chemical