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Influence of ethylene gas on ripening of mango (Mangifera indica L var Karthakolomban)

Post harvest losses in mangoes is mainly due to inferior quality fruits resulting from harvesting of fruits at different stages of maturity. High disease incidence, loss of

flavour and loss of weight due to evaporation are also observed when fruits are harvested at the mature green stage and allowed to ripen naturally. Post harvest losses due to mechanical injury is high when ripe fruits are transported. This could be reduced if mangoes could be transported in their mature green stage, while they are firm in texture. Quality of fruits could be improved if ripening can be induced at the sales outlets.

Being a climacteric fruit managoes can be induced to ripen using ethylene gas. This study was conducted to find the concentration of C_2H_4 gas that initiates ripening. Mangoes were exposed to ethylene gas concentrations ranging from 50 ppm - 400 ppm in sealed plastic containers for 24 hrs at ambient temperature. Free ventilation was permitted after the treatment. The initiation of ripening depended on the concentration of C_2H_4 used. Managoes exposed to concentration of 50 ppm-400ppm ethylene, developed to the same stage of ripeness, while untreated controls did not ripen over the same period of observation. The effects of induced ripening were assessed by physico-chemical organoleptic evaluations. Best organoleptic scores were recorded at Ethylene concentrations in the range 200 ppm - 250 ppm.