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The effect of selected ripening agent on physicochemical properties of banana

In Sri Lanka, Bananas Musa (AAB Group) are commercially ripened via smoking. This process affects the cosmetic appearance as well as the flavour of the fruit. Cac_2 is also used as a ripening agent by some traders to ripen bananas. This study was undertaken to improve on current ad hoc procedures and to develop more suitable methods for adoption at wholesale distribution points.. Mechanical injury and deterioration of bananas could be reduced, when fruits are harvested at the mature green stage while they are firm in texture, and ripening procedure carried out at the distributor level.

In this experiment, freshly harvested nature green Embul bananas were placed in sealed glass containers and exposed separately to acetylene and ethylene gas liberated from the ripening agents, CaC_2 and ethrel, respectively at ambient temperature (28C 1). Free ventilation was subsequently permitted after 24 hours. Treated fruits were ready for consumption in 2 days while untreated fruits took 5 days to ripen. Physico chemical parameters were tested when all fruits were ripe.

It was observed that brix^o acidity, and ascorbic acid levels showed no significant difference between ethrel treated and naturally ripened fruits, while peel firmness was similar in all 3 treatments.

This suggests that CaC2 treatment is less effective in the induction of ripening. Loss of quality due to conventional smoking methods could also be avoided by use of the ethrel and NaOH treatment which liberates ethylene gas - a known natural "ripening hormone".