Title Preharvest mango (*Mangifera indica* L. 'Apple') fruit bagging controls lenticel discolouration and improves postharvest quality

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Abstract

Fruit bagging during growth is practiced on some fruit crops in Australia and Japan to control damage by physiological and pathological disorders. This study was undertaken to investigate whether this treatment could be used to control lenticels discoloration, a physiological disorder unique to 'Apple' mango, a popular cultivar in Kenya, which has a high demand in both domestic and export markets. 'Apple' mango fruit were bagged at 70 days after bloom (DAB). Bagged and unbagged fruit were harvested at 168 DAB, subjected to quality analysis at harvest and on regular intervals during ripening. The experiment was set on a completely randomized design and means subjected to a t-test for comparison and least significant difference for separation at $p<0.05$. There were no significant differences ($p>0.05$) in fruit weight and diameter between bagged and unbagged fruit. However, bagged fruit had significantly ($p<0.05$) higher peel hue angle (H°) and L* values. Sensory analysis rated bagged fruit superior in terms of appearance, color and overall acceptance at harvest and on ripening. There were no significant differences ($p<0.05$) in taste and flavor between bagged and unbagged fruit. Bagged fruit had a prolonged postharvest life and reduced weight loss, and this may be of economic importance to the mango fruit retailers. These results indicate that bagging may produce an unblemished, attractive and high quality fruit at harvest and on ripening, leading to improved exports and better prices for mango fruit farmers.