

Title Improvement of postharvest pre-treatment and packaging technique for maintaining freshness of summer strawberry cv. 'Flamingo'

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Abstract

This study investigated the harvest maturity, optimum CO₂ concentration for short-term CO₂ treatment, suitable gas proportion and kind of flim required for active MA, and kind of inner packing material for freshness maintenance of summer a strawberry cv. 'Flamingo'. Fruit harvested at about 70% red color had the longest shelf-life compared with fruit harvested at, 80%, and 100% color. The contents of anthocyanin pigments and vitamin C together with firmness of 70% colored fruits increased during storage. The concentration for short-term CO₂ treatment was the most effective in 60% CO₂ with 3 hours, and maintained the fruit firmness efficiently. The treatment using 15% O₂ and 85% N₂ was significantly effective in maintaining the contents of nutritive elements such as organic acid, ascorbic acid, soluble solids, and use of 30 mm LDPE film for active MA packaging was also effective in maintaining firmness and in inhibiting water loss. An inner packing tray made of charcoal powder and pulp was effective in absorbing ethylene gas, and shelf-life of strawberries packaged in this material was extended. With the condition mentioned as above, marketability of summer strawberry can be completely sustained for up to 12 days at 4°C, which is 4-5 day longer than achieved in current practice.