

Title Wrapping of Kinnow mandarin with LLDPE Film under ambient storage
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Abstract

An experiment was conducted to assess the storage life and keeping quality of Kinnow mandarin fruits by using different coatings and manual wrapping with linear low density polyethylene (LLDPE) stretch cling film at ambient temperature in the laboratory of Department of Horticulture, IGAU, Raipur (CG) during 2003-05. Among storage methods, modified atmospheric packaging has a pivotal role for extending shelf life of citrus fruits. The results reveal a significant increase in physiological loss in weight (PLW) with the advancement period of ambient storage in all the treatments. The treatment Curing + Carb. (1000 ppm) + Wax (2.5%) + Wrap. Was found to be the best combination for storage of Kinnow fruits in which the lowest (0.09%) PLW was recorded after one week storage intray-over wrapped (TOW) fruits. The PLW after 12th weeks of storage was recorded minimum (3.28%) in combination of Curing + 2,4-D (500 ppm) + Carb. (1000 ppm) + Wrap. under TOW fruits. The treatments such as oil combinations minimized spoilage per cent even after 12th weeks of storage. At the end of 12th week, the lowest (16.99 mg CO₂/kg/hr) respiration rate was recorded in fruits treated with Curing + Castor oil (2.5%) + Wrap. in TOW fruits. After 6th week onwards, higher juice content was recorded in treatment Curing + Carb. (1000 ppm) + Wax (2.5%) + Wrap. of TOW fruits which was found significantly better than all the treatments. Similar trend of higher juice content in T4 of TOW fruits was recorded upto 12th week of ambient storage, which ranges from 47.64 to 45.35 per cent juice content, respectively. After 12th week of storage, treatment Curing + Mustard oil (8.0%) + Wrap. in individual film wrapping (IFW) showed better result with higher score (6.45). Study revealed that the fruits which were cured, treated and wrapped with stretch cling film showed less spoilage rate in control fruits were extremely higher. Result indicated that curing in combination of various coatings and film-wrapping produced higher juice recovery during all the storage intervals particularly curing + carbendazim + wax + wrapping showed better performance with higher juice recovery during prolonged storage period. The treatment combination with carbendazim & Neem oil showed better performance with higher acid content during prolonged storage period. The result on reducing sugar in treatment no curing + wrapping showed higher rate during 4th to 12th weeks of ambient storage. The cured, treated and wrapped fruits hold its acceptability for longer storage period.