

Abstract

Yellow passion fruit, *Passiflora edulis* f. *flavicarpa* Degener, was stored at 5, 10, and 15°C for 15, 30, and 45 days to evaluate the effect of temperature and storage time on fruit quality. Fruit appearance deteriorated with storage. Soluble solids of fruits at 5°C did not change during storage, but decreased after 15 days in fruits at 10°C and after every storage period in fruits at 15°C. Fruit pulp percentage showed a quadratic relationship with storage temperature and storage time. Fruit sucrose decreased with storage time at all temperatures. Fruit fructose and glucose increased during storage at 5°C, but decreased at 10 and 15°C.

Quality of yellow passion fruits wrapped in plastic film was evaluated after 15 and 30 days of storage at 10°C. Wrapped fruits had better appearance, higher weight, higher fructose, lower weight losses, and lower percentage of pulp than unwrapped fruits, regardless of storage time. Juice pH, soluble solids, glucose, and sucrose content did not differ between wrapped and unwrapped fruits. Fruits stored for 15 days had better appearance, higher weight, higher fructose, and lower weight losses than fruits stored for 30 days. Juice pH, soluble solids, pulp percentage, glucose, and sucrose did not differ after 15 or 30 days of storage, regardless of plastic film.

A comparative study between purple passion fruits and maypop fruits showed that fruit diameter increased at the same rate during the exponential phase, but the rates differed thereafter. Fruit weight, rind weight, pulp weight, soluble solids, fructose and glucose were higher in yellow and purple passion fruits, while juice pH and sucrose were higher in maypop fruits.

Ethylene, 10 ppm, was used to induce ripening of green mature purple passion fruit harvested at 55 and 60 days after anthesis and stored for 10 days at 10°C. Soluble solids and juice pH did not differ from vine ripened fruits, regardless of ethylene treatment. Sucrose decreased and fructose and glucose increased during storage. Ethylene enhanced fruit surface color and made fruits more attractive to the consumer.