Abstract:

Optimal ripeness of fresh fruits and vegetable is often difficult to achieve in supermarket supply-chains, as logistic lead times are often inadequate to guarantee a good quality.

Quality evolution knowledge in different conditions during storage could help to synchronize the selling time with best quality. In order to optimize the supply-chain the traditional storage method was compared to the supermarket system, which allows fruit refrigeration. Particularly, the main quality parameters of the nectarine cv Stark Red Gold were evaluated, while the fruits were on the shelf at the retailer location (both small retailers and grocery stores). An index $\check{D}(t)$was computed to link the effect of storage conditions to fruit quality.

Results showed that 48 hours of traditional preservation, without cooled storage, results in poor quality, due to loss of both weight and firmness. Night refrigeration slowed down the senescence process and the fruits presented better firmness and less weight loss.

The firmness index calculated using storage condition data represents in a suitable way (R2= 0,87) the firmness loss of nectarines under different storage conditions. The index could be used to model the firmness evolution of the peaches during their shelf life or storage.