

Title Postharvest behavior of purple passion fruit treated with sucrose esters
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Abstract

Purple passion is a climacteric fruit that suffers problems of weight loss, uneven ripening and fruit dehydration during postharvest ripening after low temperature storage. Because the fruit is a promissory fruit to be exported from the Colombian Andean region, a study was undertaken to investigate the changes in some chemical constituents during postharvest ripening in purple passion fruit (*Passiflora edulis flavicarpa* Sims.). Half mature purple passion fruits were treated with wax sucrose esters at four concentrations diluted in tap water (0, 1: 1 1:2 and 1:3 w/w), after harvest and stored at 4 or 7°C during 3 weeks with a subsequent shelf life period of 3 d at 20°C and 75% R.H. At the end of the third day of shelf-life, the 1: 1 and 1:2 dilutions reduced weight loss by 30 % and 20%, respectively, compared with the untreated fruit. Both concentrations retained skin color and reduced the loss of total soluble solids and acidity during storage and prevent rots. The storage at 4°C reduced weight loss and resulted in better retention of total soluble solids or major organic acids (citric and malic) compared with fresh fruit. The sucrose esters treatment of 1:1 dilution and storage at 4°C is recommended because prevented chilling injury in purple passion fruit and delayed fruit ripening to a higher extent than at 7°C. The waxes also allowed normal fruit ripening during the poststorage shelf-life at 20°C.