

Title Postharvest behavior of three papaya cultivars produced in mesh greenhouse in Tenerife (Canary Islands, Spain)

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Abstract

The location of the Canary Islands and its climatological conditions make it possible to produce tropical and subtropical fruits. The papaya production has to be under greenhouses due principally to the papaya ring spot potyvirus incidence (PRSV). This disease devastates the papaya grown in open air plantations. Furthermore, the greenhouse protects the plants from the frequent trade winds and the low temperatures in the winter season. The objective of this study is to determine which of the three papaya cultivars ('Baixinho de Santa Amalia', 'BH-65' and 'Sunset') will show the best adaptation to the cultivation conditions under mesh greenhouse and postharvest behavior for future exportation markets (eight days at 13°C and further storage at 20°C till fully ripened). The papaya quality at stage 1 (yellow/orange break color) and 6 (fully yellow/orange) was analyzed. Each cultivar was characterized (weight, length, equatorial perimeter, % weight of skin, % weight of seeds, % weight of edible portion and volume of the fruit cavity) and non destructive parameters (respiration rate, ethylene production, weight losses, colour) and destructive parameters at both stages (pulp firmness, pulp colour, total soluble solids, pH, titratable acidity and dry matter) were assessed. Finally, in order to determine the sensorial properties of each cultivar hedonic tests were performed. The postharvest behaviour of the three cultivars analyzed was very similar in weight, length, equatorial perimeter, shape and colour so panelists were not able to establish big differences between them. The size, shape, texture and colour are those demanded by the European markets.