



IHC Lisboa 2010

23rd INTERNATIONAL HORTICULTURAL CONGRESS

Science and Horticulture for People

**PROGRAMME &
BOOK OF ABSTRACTS**

502.018

Açaí Berry Cold Chain along the Amazon Rivers, its Quality and Shelf Life Time

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Açaí (*Euterpe oleracea* Mart.) is a berry easily detached from the bunch that can provide up to four kilograms of fruits. Açaí berry has around 15mm diameter, and only 1mm of pulp. The pulp is extracted on a rubbing process with the aid of water. The amount of water and the processing time define the viscosity of the drink. That drink, in fact an emulsion, is an important food among the traditional populations on the Northeast of Para (Brazil). The nutraceutical properties of the drink contributed to create an international market that grows around 20% per year since 2001. Although the market demands, the transport technologies did not change along the amazonian rivers. The author participated of a fluvial trading expedition to buy açaí berries. The ship had a load capacity to 15 tons. The boat departed from Belém (01°27'S, 48°30'W) to Oeiras do Pará (2°00'14"S 49°51'12"W), and docked briefly at São Sebastião da Boa Vista (1°43'17"S 49°32'00"W) to buy sliced ice. The whole trip took five days and were transported 11.7 tons of fruit and 3 tons of ice. Before come back most of the fruits were stored on the basement with the ice, and part was maintained on the deck, shadowed. The temperature was measured in different positions within the load along the trip; the relative humidity was measured at one point in the load and; in the laboratory was measured the respiration of the fruit respect its water content and the storage temperature. This paper evaluate the transport technology respect the shelf life time and the quality of the fruit for industrial processing, and concludes the effectiveness of the cooling process.

502.019

Acceptable Cooling Delays for Fresh Vegetables and Melons

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Small-scale vegetable growers often do not have infrastructure for cooling and may transport products to larger operations for cooling. Delays from harvest to cool may impact quality mainly due to water loss, high respiration rates and metabolite loss, and increased decay. Here we summarize various tests on fresh vegetables (beans, eggplant, summer squash, peppers) and melons to evaluate the impact of delays to cool on marketable quality (visual appearance, gloss, weight loss, color change, decay, defects, firmness). Products were harvested early in the morning, placed in perforated plastic bags in coolers with ice for transport to the laboratory. Products were then exposed to temperature and humidity conditions for different periods that are representative of California conditions for that product. Products were room cooled or hydro cooled, and evaluated after a postharvest regime of storage and retail display. Sutured (Tuscan) melons with 1% weight or less did not have suture browning, while fruit with 5% total weight loss had high incidence and severity of suture browning. Delays of 8 h at 37 °C resulted in increased suture browning. For non-sutured cantaloupe melons, delays of 4 hours or longer reduced quality when melons were stored for 2 weeks at 2.5 °C. Weight loss of mature-green bell peppers at 25 and 37 °C was 0.4 and 0.75% per hour, respectively. A weight loss of 2 to 4% reduced pepper firmness, gloss and visual quality. Color change was induced in peppers held for 12 hours at 37 °C. For eggplants, marketable quality was decreased with a 3% weight loss, achieved with a 3 hour delay at 37 °C or 6 h delay at 25 °C. Assessments of impact of delays to cool need to be done under typical harvest conditions for specific products, but for many vegetables, delays of 3-4 hours are sufficient to reduce marketable quality.

502.020

Postharvest Loss Reduction on Cooking Tomatoes cv. MST32/1 Produced by Small Farmers in Mauritius

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Trials were carried out on cooking tomatoes cv. MST 32/1 locally known as Pomme d'Amour to evaluate the level of postharvest losses that occurred with small farmers using traditional systems of weekly harvesting the crop green. After three trials carried out at different times of year it was found that only around 25% of the fruit fully ripened within a week of harvest and also around a quarter of the total harvest crop was already lost to dehydration or disease. Improved handling methods by replacing deep wooden boxes with smooth sided plastic crates and keeping the crop on wooden pallet in shade whenever possible reduced losses and the use of "Ethrel" gave around 60% of the tomatoes fully ripened by the end of the week with total losses by weight reduced to about 20%.

502.021

Cold Chain Strategy for Serbia

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A cold chain is a temperature-controlled supply chain. An unbroken cold chain is an uninterrupted series of storage and distribution activities which maintain a given temperature range. This cold chain assessment was segmented into three phases: 1) evaluate the existing cold chain for fruits and vegetables in Serbia; 2) identify key constraints to competitiveness within each key sector and element; and 3) create a strategic plan for improving the integrated cold chain in the near-term future. A representative sample of 45 cold storage facilities was generated in an attempt to tour a wide array of conventional chillers, conventional freezers and controlled atmosphere (CA), including Ultra-Low Oxygen (ULO) facilities. The total refrigerated and/or frozen capacity for storage at the 45 facilities was estimated at 100,000 MT. It was estimated by the technical team that this capacity was representative of about 1/5 to 1/4 of the total capacity for refrigerated or frozen storage in Serbia (500-600,000MT). A wide array of facilities exist in Serbia, with most being of the small- or medium-scale size, capable of storing between 150 and 2,500 MT of products, although some very large-scale facilities with capacities of nearly 11,000 MT are operating.

502.022

Effects of Mechanical Injuries on 'Valencia' Oranges

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Mechanical injuries as impacts and compression forces are very common during after harvest handling procedures to prepare the citrus fruit for the fresh fruit market. In the present work, two experiments were conducted to evaluate impacts and compression forces on the quality of 'Valencia' oranges. Impacts equivalent to drops onto rigid surfaces from heights varying from 40 cm to 100 cm and compression forces equivalent to 31 N, 62 N, 125 N or 250 N were applied to freshly harvested oranges and the fruits were analyzed after seven days at room temperature for fruit color, ratio of soluble solids over titratable acidity and ascorbic acid contents. Fresh weight losses and incidence of decay and oleocellosis were determined as well. 'Valencia' oranges are not highly influenced by impact forces. However, all the applied compression forces altered significantly the sugars/acids ratio. The higher the compression the higher the internal quality changes. Ascorbic acid contents were not significantly altered as a consequence of mechanical damages. Compression forces beyond 62N result in the collapse of peel oil glands. A compression of 250N re-