

The two coating treatments tested were a solution of 0.5% (w/v) A + 50% (w/v) GLY + 1% (w/v) AA, and a solution of 1% (w/v) A + 50% (w/v) GLY + 1% (w/v) AA. The control treatments were a dipping solution of 1% AA and a dipping of plain water. After dipping, the slices of 'Rocha' pear were packed in clamshells with normal atmosphere and stored at 4 °C. Three replicated packages for each dipping treatment were analysed over 16 day storage, for weight loss, colour, texture and sensory analysis. The sensory analysis included a quantitative descriptive analysis (QDA) to firmness, colour, taste and off-odour as descriptors and an acceptability test to evaluate shelf-life. As storage time elapsed, there were significant changes in weight loss, colour and firmness brought about by all treatments, thus confirming the usefulness of these properties as quality indicators. The coating treatments were the most effective towards prevention of weight loss, browning and loss of firmness of sliced "Rocha" pears. The water dipping treatment was that with a higher decrease in terms of weight loss and firmness. The QDA panel results were in accordance with the instrumental colour and texture measurements and no off-odours were detected in the two coating treatments tested. The two coating treatments extended the shelf-life of "Rocha" pear slices compared to the control treatments.

S02.297

Storability of 'Green Dwarf' Coconut Fruits under Refrigeration and Modified Atmosphere

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This study aimed to evaluate the effect of refrigeration and modified atmosphere on the storability of green coconut fruit for water fresh consume. Fruits of 'Green Dwarf' coconut variety were harvested from commercial orchards in Paracuru, Ceará, Brazil, and transported to the Postharvest Physiology and Technology Laboratory at Embrapa Tropical Agroindustry, Fortaleza, CE. Upon arrival in the laboratory, fruits were submitted to the following treatments: 1- Control = non treated samples; 2 - Film = wrapping in 15 µ PVC film; 3 - Wash = immersion for 10 minutes in Cl (NaOCl) 100 ppm in a shaking container followed by air dry; 4 - Wash + Film = combination between treatments 2 and 3, that is, washing followed by wrapping with film. Right after treatments, fruits were stored under refrigerated conditions (12±1 °C and 90±5 % R.H) and evaluated for mass loss, visual appearance and external color, and water turbidity, total soluble solids (TSS), soluble sugars (SS), reducing sugars (RS), titratable acidity (TA), pH, and sensorial analysis. Duration times were zero, 7, 14, 21, 28, and 35 days. For the quality experiments a factor design 4 x 6 (treatments vs. time) with four replicates (each fruit representing a replicate) were applied, while for the sensorial analyses experiments a 4 x 2 factor design, with 30 replicates (panelists) and two durations, 28 and 35 days, was applied. Green dwarf coconut fruits stored under refrigeration presented storability of 16 days. Combination of refrigeration and modified atmosphere greatly reduced mass loss, fruit wrinkling, and loss of green color enabling fruit storability of 35 days. Water from fruits submitted to washing and PVC film wrapping treatments, favored water acceptance.

S02.298

UV-C as a Postharvest Treatment of Citrus Fruit

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Green and blue moulds, due to the pathogenic action of two species of *Penicillium*, are the main responsible of orange losses during the period of postharvest. Chemical fungicides are commonly used to control them. However, the continuous use of these chemicals in commercial packinghouses has led to increase the number of resistant strains of pathogens. Furthermore, there is a growing concern among consumers about the possible harmful effect on the environment of these

molecules or their residual metabolites. Ultraviolet-C illumination (254 nm) could be used as an effective physical treatment to avoid *Penicillium* proliferation on citrus fruit. In this work UV-C illumination are propose as an alternative physical treatment to reduce citrus decay. The direct and indirect (elicitation) effects of UV-C in the pathogens were investigated. Fruits were subjected to different doses of UV-C illumination, before and after pathogen inoculation. Fruits were stored for 7 days at 20 °C and 1 month at 5 °C following 7 days at 20 °C simulating shelf-life period. After storage period the decay incidence of *Penicillium* was evaluated. Quality parameters as colour, weight, % juice were evaluated using destructive methods. The acidity and °Brix were evaluated using NIR non destructive technology, allowing to monitoring these parameters in the same fruits. Results will be discussed considering the direct and indirect responses in relation with the applied dose of UV-C.

S02.299

Application of X-Ray Microtomography Tool on an Hidration-Dehidration Study of Açai Berry

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The anatomy of the fruits of *Euterpe oleracea* is not well known and the little studies found in literature use classical microscopic techniques. On this paper the authors present the anatomic changes of the acai berry submitted to an hydration-dehydration process, and the changes were registered with the X-ray microtomography technique. Açai is not consumed in nature, its 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 resulted emulsion, a very appreciated food on the Nortest of Para (Brazil). Its market overcame the inertial growth in 1995 when the first lots arrived to the richest region or the country. At 2001 the frozen emulsion began to be exported. The intense growth of the market has demanded more efficient depulping processes, what motivated this study. The fruits are partially dehydrated during transportation and then rehydrated in the industry before rubbing, what was simulated in the laboratory with aid of an oven at 60 °C, and water immersion at 25 °C. The fruits were observed with the microtomograph SkyScan model 1172. The fruits were submitted to dehydration between 2.7 and 10%, and dried. Dehydrated fruits to about 4.9% presented few ruptures in the storage parenchyma, epidermis and anthocyanin parenchyma. A big retraction of the storage parenchyma that contain the lipids was observed about 7% of water loss. About 10% all tissues presented big shrinkages increasing the distance between monosteles. The embryo shrunked proportionally to the dehydration rate.

S02.300

Effect of Storage Pre-Conditioning and Duration on the Sensory Quality of 'Honeycrisp' Apple

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'Honeycrisp' is a relatively new apple cultivar, which was released by the Minnesota Agricultural Experiment Station in 1991. The fruit has outstanding flavour characteristics and can remain crisp for several months in storage. 'Honeycrisp' is also extremely susceptible to the storage disorders soft scald and soggy breakdown. To control these disorders it is common to pre-condition the fruit prior to cold storage with delayed cooling, 4-7 days at 10-20 °C. Postharvest application of 1-methylcyclopropene (1-MCP), an inhibitor of ethylene action, has also been shown to reduce certain storage disorders in apples. The objective of this study was to evaluate the effects of delayed cooling and/or 1-MCP treatment on the fruit sensory quality after 1, 4, or 6 months. 'Honeycrisp' apples were harvested twice within the commercial harvest window. Apple batches were then held in various regimes ranging from 0 to 6 days at 10 to 25 °C, and treated with or without 1-MCP (1 ppm for 24 hours at 3 °C). All fruits were then stored in ambient air or controlled atmosphere (1.7-2.0% O₂ + 2.0% CO₂) at 3 °C. A