

earlier than in the control (water). *Lasiodiplodia theobromae*, another post-harvest pathogen, was also detected but at a low incidence (2%). Thus, latent infection of anthracnose in guavas can be rapidly and accurately detected by treating the fruits with ethephon and paraquat.

### S02.267

#### Microbiological Evaluation of the Industrial Processing of Pasteurized Açaí Pulp

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In recent years, the açaí, a native fruit of the Brazilian Amazon region, has been widely marketed not only in Brazil but also internationally. The Brazilian production is sold primarily to the United States of America, where açaí is mainly used in the formulation of functional beverages. In this work, a microbiological evaluation of the industrial processing of açaí was conducted in the city of Castanhal (in the state of Pará, Brazil); samples of water (before and after washing the fruits, after maceration, and CIP water) and pulp (after the steps of extraction and pasteurization) were collected. The analyses (fecal and total coliforms, mesophilic bacteria, molds and yeasts) were carried out in triplicates (water) and five replicates (pulp). According to the results, the washing water and the CIP water were not contaminated by fecal and total coliforms; the water collected after washing the fruits showed significant contamination by fecal and total coliforms; a high microbial load was still observed in the water after maceration. After the extraction of açaí pulp, a significant number of yeasts and molds (average of 100 CFU/g) and of mesophilic bacteria (average of 1000 CFU/g) were found, but these levels are within the acceptable range of the Brazilian legislation. In all pulp samples collected after pasteurization, the results obtained for yeasts and molds, as well as for mesophilic bacteria were estimated as < 10 CFU/g, indicating that the levels of contamination were low and confirming the efficiency of the pasteurization process.

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#### Wound-Induced Respiration and Ethylene Production in Fresh Cut Romaine Lettuce

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Understanding the physiological and biochemical processes induced by cutting can help in devising strategies to improve fresh-cut lettuce quality. We evaluated the response of Romaine lettuce to cutting temperature by cooling overnight and processing five, freshly harvested heads at 5 or 15 degrees. Undamaged, expanded leaves were immersed for 1 min in 5 or 15 °C chlorinated water (1.34 mM; pH 7), cut longitudinally then transversely into 2-cm wide pieces, re-immersed in chlorine solution, and the excess liquid removed with a salad spinner. Cut pieces from each head (100 g) in flow through systems were measured every 2 h for 24 h for O<sub>2</sub>, CO<sub>2</sub>, and C<sub>2</sub>H<sub>2</sub> by gas chromatography. The CO<sub>2</sub> evolution immediately after cutting was approximately 3.5-fold higher at 15 °C than at 5 °C, and O<sub>2</sub> consumption was approximately 2.2-fold higher at 15 °C. The CO<sub>2</sub> evolution at 15 °C increased during the first 4 h after cutting and thereafter remained steady; at 5 °C, a small increase occurred during the first 8 h with a slight decline thereafter. The O<sub>2</sub> consumption at 15 °C increased during the first 3 h after cutting, decreased until hour 10, then remained steady or declined slowly. The O<sub>2</sub> consumption at 5 °C decreased by half during the first 12 h after cutting and changed little thereafter. The respiratory quotient (RQ) was < 1 during the first 8-12 h after cutting, rose and remained steady at approximately 1 for 8-10 hours at 5 °C and about 8 h at 15 °C, finally increasing to about 1.1 at 5 °C and 1.7 at 15 °C. Ethylene production was 6-fold higher at 15 °C than at 5 °C (0.12 versus 0.02 μL×kg<sup>-1</sup>×h<sup>-1</sup>) and did not change over time. These relative changes in CO<sub>2</sub> production and O<sub>2</sub> consumption suggest that non-respiratory oxidative reactions play a significant role in the post-cutting wound response of fresh-cut lettuce.

### S02.269

#### Minimal Processing of Peach 'Aurora-1': Types of Cutting and Storage Temperatures

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Production of minimally processed fruit establishes a product class that is increasing in a fast and important way in the last years due to the nutritional appealing, and product consumption with convenience and security. This research evaluated conservation temperatures and different kinds of cuts, for the quality and shelf-life of minimally processed peach. Minimal processing consisted of washing, sanitization, peeling and fruit stone removal. In order to remove the stone, a longitudinal cut was made resulting in three types of products: halves, fruit divided in four and eight segments. Obtained slices were immersed in 2% ascorbic acid for 3 minutes. Then the products were packed in rigid polystyrene trays branded MEIWA M-54, coated with 14μm PVC film (Omnifilm™) (about 200g per pack). Treatments were divided into three batches, stored at 3 °C, 6 °C and 9 °C and 65% RH for 12 days, and evaluated every four days. The variables were appearance, fresh mass loss, coloration, O<sub>2</sub> and CO<sub>2</sub> determination, pH, acidity, soluble solids, soluble and reducing sugars, total and soluble pectin, ascorbic acid, peroxidase and polyphenol oxidase of enzyme activity. It is concluded that storage temperature of 3 °C provided to minimally processed products a higher maintenance quality, because of ripening evolution and senescence, and provided products with a better external appearance quality. It was also verified that the interaction between 3 °C temperature and eight sliced fruit segments showed a better product appearance with a higher soluble solids content.

### S02.270

#### Effect of Anolyte Dipping on Microbial, Physicochemical, Sensorial Quality in Dates Fruits

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The Deglet Nour date, also known as "the date of the bright light" is well-known for its unique taste, its particular aroma, its yellow-golden colour and its nutritional value. In Tunisia, this variety is of higher market value and is the highest-valued variety on international markets. Tunisia is currently the 10<sup>th</sup> world producer and the first exporter of Deglet Nour. However, industrials often encounter quality problems (microbiological and physicochemical) which are enhanced by the long storage period. Actually, 5% of the dates stored is lost due to microbiological proliferation. The aim of this study is to ensure a good conservation of dates using anolyte solution in order to reduce initial bacteria populations, reduce its proliferation during storage and thus increase the shelf life of a better quality product. Anolyte is environmentally safe oxidizing solution that can be used as a biocidal agent. It combines washing, disinfecting and sterilizing agent features. After being used, it degrades spontaneously. In this work, the effect of anolyte water (pH (7-7.5), ORP(800-850 mV)) is studied, as an ecologically safe alternative for disinfecting dates fruits, particularly Deglet Nour variety. Dates were dipped in anolyte/water solutions at three different concentrations (1, 3 and 5%) and for different time exposures (0, 0.5; 1, 2, 3, 4 min). The percent reduction in the total bacteria count, yeast and molds were analyzed after each treatment. Microbial analysis after treatment showed a reduction of the total count of mesophilic bacteria of 90% and completely eliminated yeast and molds from date fruit. Tests showed no effect on pH value, firmness, sugar content, total soluble content and acidity of the product. In addition, sensory evaluation based on a triangular test showed no significant difference (P<0.05) for two parameters (taste; odor).