FIRST CONFERENCE

INNOVATIONS IN FOOD SCIENCE & TECHNOLOGY

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ABSTRACT BOOK

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While the addition of 0.7% Centella extract contribute to higher value in WVP (1.13 × 10-4 g m-1s-1Pa-1) and puncture test (0.06 N). There is no significant different between functional groups that obtained from this blended film as evaluated by FTIR analysis ($p>0.05$). Furthermore the XRD analysis showed the addition of extract increase the crystallinity of film. In conclusion, the Centella asiatica extracts incorporation on film greatly increased the antioxidant and improved some of the functional properties of the films blends.

FPT-06: Contribution of sugars and volatile components to perceived sweetness of apple

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Correlation between soluble solid content (SSC) and sweetness in apple is weak. Nevertheless SCC is commonly used as an estimation of sweetness because is easily measurable. We also found poor correlation between sugars (total or single sugars) and perceived sweetness in apple. Starting from the concept that sweetness perception is influenced by other sensory characteristics we explored the possible influence of volatile compounds on sweetness in apple. A combination between sensory and instrumental approach was used for this purpose. Single sugars (sucrose, glucose, fructose, xylose), sorbitol, malic acid, SSC and volatile compounds were measured in 40 apple batches and compared with sweetness as measured by a trained sensory panel. Using regression models we found that sugars, sorbitol, acids and SSC explain less than 60 % of perceived sweetness. Including volatile compounds into the model is possible to account for 92 % of sweetness variance in apple. In particular, several esters that are associated with fruity aroma positively contribute to the model for sweetness while other compounds such as 1-octen-3-one, 1-octen-3-ol, 6-methyl-5-hepten-2-ol and cis-3-hexen-1-ol associated to earthy-fungal or green-herbaceous odours give a negative contribution to sweetness. These results are a clear example of how sensory perception is regulated by multisensory response.

FPT-07: Life Cycle Assessment of Concentrated Peach Puree Production

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Over the past quarter century, "sustainability" concept has received increased attention. Sustainable technologies use less energy, don't deplete natural resources, don't pollute the environment and they can be reused or recycled at the end of their useful life. The agriculture and food sectors are responsible for several important environmental impacts. Therefore, it is essential for the food production systems to be managed according to sustainability in order to provide safe, nutritious and eco-friendly foods. Food sustainability is one of the most important challenges in the world. Food processes utilize significant amounts of labour, machinery and energy to convert edible raw materials into higher-value food products. Because of the increasing energy prices and efforts for the reduction of greenhouse gas emissions, it has become significant to improve the energy efficiency, replace the existing energy-intensive operations with new energy-efficient ones, and increase the use of renewable energy in the food industry. The fruit juice industry is one of the world's major agro–based businesses. For purposes like reducing transportation, packaging and storage costs or reaching several technological results, i.e. obtaining microbiological stability, water content of raw material and semi-finished products should be reduced. Peach puree is the raw material for production of jams, marmalades, fruit juices and bakery fillings. It is also used as a component of many food products such as baby foods, dairy products, fruit beverages, desserts and snacks. Three important viewpoints are required for development of sustainability in food production: more food safety, more efficient and renewable energy, and zero waste approach. Life cycle assessment (LCA) is the most common approach used to determine the sustainability of production. In this study, peach puree concentrate production line of an existing fruit juice production plant was examined and the environmental effects of this production were evaluated using the LCA method.