

including mouth-feel, overall liking and acceptance. These findings are a result of organoleptic studies conducted in a number of flavour model systems and food and beverage category applications. Sensory evaluations clearly demonstrate preferred taste acceptance with glycoside blends in applications where saccharides are present in the sweetener matrix, suggesting a synergistic mechanism in flavour enhancement.

Intercultural study of consumer acceptability of *Hibiscus sabdariffa* L. drinks between European countries – Portugal, United Kingdom and France

Maria Isabel Franco¹, Geneviève Fliedel⁴, Aurelie Bechoff⁵, Corinne Rumney⁵, Mónica Freitas², Susana Teixeira¹, Ana Patrícia Silva¹, Maria João Monteiro¹, Mady Cissé³, Dominique Pallet⁴, Ben Bennett⁵, Keith Tomlins⁵, Manuela Pintado¹

¹*Escola Superior de Biotecnologia - Universidade Católica Portuguesa, Porto, Portugal,* ²*Faculdade de Veterinária da Universidade Federal Fluminense, Brazil, Brazil,* ³*Association Afrique Agro Export, Senegal, Senegal,* ⁴*CIRAD, Montpellier, France,* ⁵*Natural Resources Institute, University of Greenwich, Chatham, UK*

The consumption of this drink is widespread in Africa and Asia, as far as we know little appears to have been published about European consumers' acceptance, when the drink is largely unknown in Europe. In order to achieve product acceptance followed by successful market introduction in Europe, it is of prime importance to gain insight into the factors determining consumers' food choice. Understanding how consumers perceive food products is critical for food companies. This information is essential for the development and marketing of new products, the reformulation of existing ones, the optimization of manufacturing processes and the establishment of specifications in quality control programs.

One of the most novel methodologies that has been developed for gathering information about consumers' perception of the sensory characteristics of food products is the use of check-all-that-apply questions (CATA). CATA questions consist of a list of words or phrases from which respondents select all the words they consider appropriate to describe a product. This can result in a simpler and more valid approach to gathering information about consumers' perception that includes both their sensory and hedonic impression.

The aim of the present work was to apply CATA questions to compare consumer perception in the development of *Hibiscus sabdariffa* L. drink products between European countries, namely Portugal, United Kingdom and France. Four traditional samples (n=4)

brought from Senegal were tested, two directly as commercial products - viz. 1 commercial syrup and 1 commercial instantaneous juice and two produced according to traditional approaches from calices.

Consumer's studies were performed in Oporto, Porto - Portugal, with 100 people from two Portuguese Catholic University Campuses, in Chatham, United Kingdom, with 120 people from the University of Greenwich and in Montpellier, France with 120 people from two canteens at the CIRAD Campus (La Recherche Agronomique pour le Développement) viz. – Baillarguet and Lavallete. Consumers were asked to score their overall liking and to answer a CATA questionnaire that included 28 sensory and hedonic terms.

Significant differences were found in the frequencies in which CATA terms were used for describing the four samples in each European country under study, suggesting that this methodology was able to detect differences in consumer's perception of the drinks. CATA methodology allows establishing a European consumer profile of *Hibiscus sabdariffa* L. Drinks.

Symposium: ILSI Water Quality and Safety

River water as source of high-risk irrigation water!

TJ Britz, C Lamprecht

Department of Food Science, Stellenbosch University, Stellenbosch, South Africa

Consumption of fresh produce is increasing worldwide and since often eaten raw it makes an excellent vehicle for disease transmission. Not-surprisingly, food-borne disease outbreaks linked to fresh produce are increasing, in both number and intensity. Although fresh produce can become contaminated at any time in the agri-food chain, pre-harvest contamination is considered the most likely origin. One important source of pathogens found on fresh produce is from faecally-contaminated irrigation water. Over the last decade the microbial quality of many South African rivers used for irrigation of fresh produce has decreased and pollution levels are far above recommended WHO and local guidelines.

As part of a study funded by the Water Research Commission and Department of Agriculture, the potential risk involved in the use of contaminated river water as irrigation water was investigated. Based on the results, the microbial levels of rivers and fresh produce monitored in different provinces of South Africa over 4 years showed unacceptable microbiological levels with faecal indicators, reaching log⁷ cell concentrations. In many cases they did not meet international faecal