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Microbiological evaluation of a small scale processing for sugarcane juice

Rodrigo R Petrus, Carine O Silva, Fabio Augusto Gallo and Laura Q Bomdespacho
University of São Paulo, Brazil

An investigation was carried out to evaluate control points in a pilot plant designed for sugarcane juice processing. The juice was extracted in a stainless steel electric cylinder mill and then acidified with citric acid until attaining the pH of 4.3. Next it was pasteurized in a plate heat exchanger at 95°C/30 s and then cooled to 10°C before being filled into a plastic bottle and induction sealed. The product's filling was performed in an ISO class 5 unidirectional air-flow cabins. Bottles were decontaminated by 0.05% per acetic acid (PAA) spray; at 45°C for 20 s. Seals and caps were sterilized at 121°C/15 min. Three batches of acidified sugar cane juice were carried out. The qualities of the raw material (pH 5.1 and 22.3 °Brix), of the rinse water of the processing and filling line (after sanitation with 0.1% PAA at 50°C for 40 min), of the packaging and of the end product, were all microbiologically evaluated. The total aerobic mesophilic and molds and yeasts mean counts in natural fresh sugarcane juice were 1.8x10⁶ and 1.6x10⁵ CFU/mL, respectively. The mesophilic and molds and yeasts mean counts taken, in both rinse water samples of the processing line and the bottles, were lower than 1 CFU/mL. The mesophilic and molds and yeasts mean counts in acidified and pasteurized sugar cane juice were 4.3x10² and lower than 10 CFU/mL, respectively. The findings indicated that the procedures that were evaluated met standards for the acidified sugar cane juice to be produced then stored under refrigeration.

rpetrus@usp.br

The importance of conformity assessment in support of food technology

Yehia El-Samragy
Ain Shams University, Egypt

Food business customers, consumers, users and public officials have expectations about food products and services relating to features like quality, safety, ecology, economy, reliability, compatibility, interoperability, efficiency and effectiveness. Conformity assessment means evaluating such characteristics as defined in standards, regulations and other technical specifications. In this way, conformity assessment makes sure that products and services deliver on their promises. Conformity assessment may consist of any one of, or all of the following: sampling, inspection, process evaluation, supplier's declaration of conformity, management system registration, personnel competencies, product conformity certificates, mutual recognition of results and the accreditation and peer assessment of the competence of the organizations conducting these activities – collectively known as “conformity assessment bodies” or “certification bodies”. There has been growing consumer worldwide demand for safer food which has led to the proliferation of national food safety standards and increasing confusion among food producers, suppliers, and food service providers. This presentation will give particular emphasis to the role that the ISO 22000 series of documents can play in acting as a basis for the consolidation of the various food safety systems to provide information on the latest international standards and guides that set out the internationally agreed practices for conformity assessment activities that support food manufacturing.

elsamragy@hotmail.com

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