

19th International Conference on

FOOD PROCESSING & TECHNOLOGY

October 23-25, 2017 | Paris, France

Juice to juice adulteration detection

Nicholas H Low and Jamie L Willems
University of Saskatchewan, Canada

Fruit juices are a common target for adulteration by unscrupulous producers. One common method of juice debasing is the undeclared addition of a juice of lesser value to a product (juice-to-juice adulteration). This is of particular concern between apple and pear juices due to similarities in their major carbohydrate profiles and sensory properties. This makes apple-to-pear and pear-to-apple adulteration difficult to detect. Phenolic profiling by high-performance liquid chromatography with photodiode array detection (HPLC-PDA) was used to identify phenolics, which were unique to apple or pear juice for use as authenticity markers. A database of 27 commercial apple juices representing six world production regions and 32 commercial pear juices representing five world production regions were used in this study. One marker was identified in apple juice and two (excluding arbutin) were identified in pear juice. The structural identity of these compounds was determined following chromatographic isolation by a combination of UV-visible spectroscopy, mass spectrometry, and nuclear magnetic resonance spectrometry.

Biography

Nicholas H Low is a Professor of Food Chemistry at University of Saskatchewan, Canada. His research group has been working in the area of food adulteration detection for more than 30 years. His group pioneered the field of oligosaccharide fingerprinting for the detection of debasing agents in fruit juices, honey, and both maple and agave syrups. These analytical methods are used by government regulatory agencies and industry throughout the world. Current research areas include the development of internal tracing methods to monitor foods from farm to fork; phenolic profiling for food authenticity; and the encapsulation of bioactive compounds for targeted delivery in human and animal systems.

nicholas.low@usask.ca

Notes: