

IFSH Special Seminar

Wednesday, March 18, 2015

2:30PM – 3:30 PM

Room 100, Moffett Campus

David Hammond, Ph.D.

Vice-President

European Fruit Juice Association

“Fruit Juice: Authenticity Verification and Detection of Adulteration with Overview of International Guidelines and Regulations”

Biosketch

Dr. Hammond is an internationally acknowledged expert in the field of fruit juice analysis with *ca* 30 years experience. His skills lie in the analysis of juices and juice containing products to establish their authenticity. He has also worked on other authenticity issues such as honey, coffee, meat, and fish speciation. He is the past president of the International Fruit Juice Union Analytical Commission, which is responsible for the preparation and validation of methods suitable for the analysis of fruit juices. Dr. Hammond is currently the Vice President of the European Fruit Juice Association (AIJN) code of practice expert group, which is responsible for the preparation and updating of the reference guides used by the European fruit juice industry to control the quality and authenticity of their products. He is chairman of the British Standards committee for fruit juices (AW21) and a member of DEFRA's (Department of Environment Food and Rural Affairs) Authenticity Methodology working group, which is responsible for the approval of methods used by the UK Government in enforcement exercises. Dr. Hammond was also the General Referee for fruit juice methods at AOAC. He received his Ph.D. from the University of Nottingham in 1983, and BSc in Chemistry from the University of Nottingham in 1978.

Abstract

An introduction to the international regulation of fruit juices will be briefly given, including an overview of the AIJN Code of Practice, which is the approach the European fruit juice industry uses for its industry self control scheme (EQCS). The important use of validated methods will be mentioned, and the part that the International Fruit Juice Analytical Commission has played in providing a wide range of validated methods of analysis will be discussed. The best available approaches to assess the quality and authenticity of fruit juices will be highlighted. These will include isotopic methods and their refinements for the detection of the addition of sugars, acids, and water. A recent development of a ¹H-NMR screening method for juice adulteration will also be highlighted. The most appropriate methods used to detect adulteration of lemon juice will be given, together with a few examples of problems that have been seen in European and US “authenticity” laboratories.