

Food Processing & Technology

October 27-29, 2016 Rome, Italy

Food fraud detection in commercial pomegranate molasses syrups by spectroscopic and HPLC methods

Nada El Darra¹, Hiba N Rajha², Nicolas Louka³, Richard G Maroun³ and Fatima Saleh¹¹Beirut Arab University, Lebanon²Sorbonne University, France³Université Saint-Joseph, Lebanon

Food fraud is a serious ethical and economic problem affecting the food industry everywhere. As pomegranate molasses' consumption continues to increase due to its unique taste and antioxidant activity, its adulteration is taking several forms. Most commercial pomegranate molasses are labeled as containing 100% pomegranate, giving the customer the impression that they are benefitting from the healthful and nutritional effects associated with pomegranate. The purpose of this study was to detect for the first time the adulteration of commercial pomegranate molasses with date molasses, which will be important not only to the regulatory agencies and to manufacturers, but also to consumers who might purchase it for its health-beneficial effects. To differentiate pomegranate molasses from the date syrup, different parameters that could signal adulteration, such as total acidity content, polyphenol yield, anthocyanins concentration, color intensity and antiradical activity were determined. UV-VIS spectroscopy was used as a screening method to detect fraud and high-performance liquid chromatography was conducted for a quantitative analysis. Our findings support the hypothesis that some of the commercialized pomegranate molasses in the Middle East area are adulterated with cheaper date syrup.

Biography

Nada El Darra obtained her BSc in Life and Earth Sciences from Saint-Joseph University, Lebanon in 2007. She earned her MSc in Food Chemistry with Honors from Saint-Joseph University, Lebanon in 2009. Then, she worked as a Quality Manager at Conserves Moderns Chtaura, Lebanon. In 2013, she obtained a certificate entitled "ISO 22000:2005" Food Safety Management System Lead Auditor from RABQSA. She was subsequently awarded a scholarship to pursue her PhD under a joint program between Saint-Joseph University and University of Technology of Compiègne, France. She obtained a PhD in Food Chemistry from Saint-Joseph University (2013) and a PhD in Industrial Process Engineering and Sustainable Development from University of Technology of Compiègne, France. After completing her PhD, she worked in 2014 as a Quality Manager at Abido Spices, Neemeh, Lebanon. She has a number of publications in peer-reviewed journals. In 2014, she was appointed as an Assistant Professor at Nutrition & Dietetics Department, Faculty of Health Sciences, at Beirut Arab University.

n.aldarra@bau.edu.lb

Notes: