

## **PORTABLE FT-IR SPECTROMETERS - BECOMING A REALITY FOR THE FOOD INDUSTRY**

L. E. Rodriguez-Saona\*

The Ohio State University, Dept of Food Science and Technology,  
Columbus, United States

Optical technology is rapidly developing and instruments are available commercially as portable, hand-held, and micro-devices that can be used when it is not practical or economical to use the more sophisticated and costly instruments used in research laboratories. We will present information on the feasibility of handheld and portable infrared systems in applications relevant to the food industry. We have evaluated their performance against benchtop systems directed at developing fingerprinting strategies for rapid and specific analysis of high-risk foods (i.e. cocoa butter, olive oil, milk), providing reliable tools for assessment of quality and safety. Food applications have been targeted at screening quality compositional markers, detection of economic adulteration and detection of chemical food contaminants through development of spectral signature profiles permitting the chemically characterization of food components. This technology can enable the food manufacturer for real-time and field-based measurements to control the raw material stream, addressing safety and brand equity. Implementation of rapid testing by the industry and regulatory agencies would help to streamline food safety and quality assurance and will prevent the growing danger to consumers from adulterated or substituted products.

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\* Corresponding author: rodriguez-saona.1@osu.edu