

## **Beyond the z-Score; the importance of proficiency testing in reducing food control risks and maintaining laboratory quality assurance**

Mark Sykes, Fapas, Fera Science Ltd, UK

### Abstract

Laboratories take part in proficiency testing to gain (and maintain) accreditation to ISO 17025, to ensure continuity of internal quality control or because a client may demand it. The operation of the laboratory and its personnel may depend on achieving good z-scores (or other assessments) with acceptable frequency. However, what are the wider implications of not taking part in proficiency testing? What are the implications of not acting on the results of a proficiency test or mis-interpreting the outcome of a proficiency test? At one end of the scale, the nutritional information on a product label might be inaccurate. At the other end of the scale, failing to detect and declare an allergen in a food product might prove fatal. For a food manufacturer, the failure to correctly determine the required quality of a product might be an expensive mistake when that product has to be withdrawn from sale. International trade might also be suspended if a food is found to contain unacceptable levels of contaminants or adulterants. Proficiency testing has an important role in mitigating these scenarios whereby the blind analysis of a real-world food item is the ultimate test of a laboratory's capability. This presentation uses proficiency test data to demonstrate the impact of risk mitigation in food control and laboratory quality assurance.