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ROLE OF ANALYTICAL TESTING FOR FOOD FRAUD RISK MITIGATION – HOW MUCH IS ENOUGH

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Food fraud is of high concern to the food industry. The practice is widespread and the nature of the fraud is varied and fraud can potentially happen at all stages in the food chain. A multitude of analytical technologies exist to detect fraud including chromatography, spectroscopy, DNA analysis, etc. However, in many cases the testing is expensive and some forms of fraud, such as some labelling changes, may not be detectable by analytical techniques. When analytical techniques are employed, the question immediately arises as to the extent and frequency of testing required. In this opinion paper, several aspects relating to the role of analytical testing for food fraud risk mitigation are explored. In the first instance, available databases detailing fraud occurrences were systematically examined to determine how frequently analytical testing triggered fraud detection. In many cases, analytical testing was not the trigger to detect fraud. This work was complimented by a structured survey of industry stakeholders to determine their experience of how successful has analytical detection been to detect fraud. In addition the paper considers a framework for deciding when to implement testing programmes for fraud and a framework to consider the economic considerations in fraud detection. Current regulatory issues relating to food fraud detection are explored as well as some of the main factors associated with statistical sampling for fraud detection. The occurrence of fraudulent product in the supply chain is typically not randomly distributed. Potentially this impacts on the success of the sampling scheme set up to detect fraud.