



## Guidance Note on Next Generation Sequencing Applications for Food Authenticity Testing

Next Generation Sequencing (NGS) is a powerful tool for rapidly and cost-effectively identifying and characterising plant, animal and microbial species present in mixed food samples.

The application of NGS to food authenticity, adulteration and safety testing is a constantly evolving field with its own unique set of challenges that need to be explored. Further work needs to be conducted to better understand the performance characteristics and establish relevant performance criteria and metrics, to enable results generated in different laboratories to be compared and interpreted with equal confidence.

Following concerns raised from food industry members on the use of NGS for the quantitative determination of food ingredients, the Government Chemist engaged with Defra's Authenticity Methodology Working Group (AMWG<sup>1</sup>) and its Technical Sub-Group (AMWG-TSG), resulting in the AMWG producing a view<sup>2</sup> on the use of NGS for food authenticity testing<sup>3</sup>.

**You can download Defra's Authenticity Methodology Working Group's view on the use of Next Generation Sequencing for food authenticity testing from [www.gov.uk/governmentchemist](http://www.gov.uk/governmentchemist).**

Dr Julian Braybrook  
Government Chemist

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<sup>1</sup> An independent expert group that provides scientific and technical advice to support Defra's food authenticity programme.

<sup>2</sup> The views/opinions expressed by AMWG were correct at the time of the note (November 2020).

<sup>3</sup> Selvarani Elahi, Deputy Government Chemist, is the Chair of AMWG and Dr Malcolm Burns, Head of GMO unit, Principal Scientist and Special Advisor to the Government Chemist, is a Member of AMWG; they both participated in the AMWG-TSG meeting on NGS and subsequent discussions, inputting into the AMWG view on NGS.