

Oxford Nanopore and WeNou announce a partnership to develop and commercialise the first rapid and portable food authenticity sequencing test to detect food fraud

Oxford Nanopore's sequencing devices and kits with WeNou's expertise will be used to develop a validated food authenticity workflow to meet industry standards

Wednesday 29th November

Oxford Nanopore Technologies (Oxford Nanopore) and WeNou, a company providing innovative services based on DNA analysis for the food and feed sectors, today announce a collaboration that will bring to market the first industry-accepted, simple and rapid test using nanopore sequencing to accurately determine critical adulterants and composition of food samples. Using an 'untargeted' approach, the collaboration will result in a single DNA sequencing-based analysis for identification of multiple species in a sample that is more cost effective and faster compared to current methods.

With fraud accounting for 5 - 25% of all globally reported food safety incidents¹, food manufacturers and retailers typically perform spot-tests on their raw materials to verify the safety of their food products. However, current analytical methods for spot-testing either require multiple targeted tests and/or large capital investment for testing. This partnership aims to develop and commercialise a validated, fit-for-purpose test using Oxford Nanopore-based sequencing to identify multiple species present in different food sample types, including unprocessed, highly processed or complex.

As experts in food authenticity testing with a track record for innovation, WeNou compared nanopore sequencing with the traditional sequencing workflow commonly used in the food industry. This preliminary work showed equivalent and highly reproducible results. In addition, turnaround time was faster when used for meat and fish identification across multiple retail food samples including canned, fresh, frozen and other. The portability of nanopore sequencing created efficiencies through more decentralised sample testing.

The collaboration will expand on the preliminary study by optimising the workflow using the latest sequencing chemistry from Oxford Nanopore. In addition, the ability to identify shellfish, plants, and insects from highly processed and complex food samples will be assessed in the collaboration. After validation, the test will be suitable for service providers to obtain industry accreditation to assess food and feed authenticity.

Sandra Chaves, CEO, WeNou, commented:

"We are thrilled to reach agreement with Oxford Nanopore on this collaboration to provide access to the latest technologies suitable for highly reliable testing services to the food and feed sectors. The features of the platform will allow WeNou to offer cost effective, rapid turnaround species identification testing for authenticity assessment. I've been working in this area for a long time and there is no existing product that addresses increasing demand for this type of

cutting-edge solution. Through this collaboration, we will be able to validate a test that will meet the industry's expectations and needs. Although there are currently no established guidelines in this sector, those guidelines are coming, and we believe this solution has the potential to support better regulation in this field."

Gordon Sanghera, CEO, Oxford Nanopore Technologies, commented:

"We're delighted to partner with WeNou to develop the first rapid and portable food authenticity sequencing test. Combining Oxford Nanopore technology with WeNou's expertise, this collaboration will result in the sector's first single test for the identification of multiple species in one food sample, detecting food fraud using a method that's more cost effective and faster compared to current time-consuming tests."

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About Oxford Nanopore Technologies

Oxford Nanopore Technologies' goal is to bring the widest benefits to society through enabling the analysis of anything, by anyone, anywhere. The company has developed a new generation of nanopore-based sensing technology for real-time, high-performance, accessible and scalable analysis of DNA and RNA. The technology is used in more than 120 countries to understand the biology of humans and diseases such as cancer, plants, animals, bacteria, viruses and whole environments. Oxford Nanopore Technologies products are intended for molecular biology applications and are not intended for diagnostic purposes. www.nanoporetech.com

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About WeNou

WeNou was created with an experienced team to give answers for growing concerns about food authenticity, quality and safety. All food chain stakeholders, including consumers, demand more accurate information about raw materials, ingredients, and finished products. NGS meets a strong market need for reliable untargeted analytical methods that can detect several different targets at the same time. NGS application to food and feed analysis allows the reliable identification of the species content in a sample (meat, fish, plants, seafood, insects, microorganisms, etc.), providing a powerful tool for the assessment of food authenticity and safety, helping to prevent food fraud.

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ⁱ https://ifst.onlinelibrary.wiley.com/doi/woepdf/10.1002/fsat.3510_8.x - Points.J. "Horizonscan occasional articles 4: Food and feed authenticity – recent trends", published by Fera Science Ltd, York, UK, 2016