



## **Food product traceability, a partnership between consumer safety and new technologies**

**Research and innovation (R&I) are offering new prospects and solutions to the growing demands of consumer safety, such as monitoring the supply of olive oil from vine to shelf via digital traceability.**

Food safety is a critical issue that not only relates to health but also the future of quality food production whose development is based on maintaining consumer confidence.

It is estimated that global food fraud costs the industry 46 billion euros each year and that is expected to continue to grow. In China, nationwide cases of food fraud in recent years have led to security becoming a major concern for Chinese consumers, as recent surveys attest.

Research and technological innovation are being increasingly employed to counteract this public crisis of confidence. For example, blockchain technology is attributed to playing an increasingly important role in the traceability system.

Using blockchain technology for food traceability will enable the digital tracking of products from the farm to the table, providing detailed information of origin, batch numbers, factory and processing data, expiry dates, storage temperatures and details at every stage of the process shipping.

EU-China-Safe is one international project that is utilizing these new resources in Europe and China in order to jointly implement major advances in improving food safety and combating food fraud in their respective trading blocks.

Comprised of 33 partners (16 from the EU, 17 from China) from key research organizations, government and industry, the 10 million-euro project is funded by the European Horizon 2020 program and by the Chinese Ministry of Science and Technology.

Cutting-edge technologies will be made available to improve detection and food security, a network of joint laboratories will be established, as well as the creation of collaborative surveillance systems and new traceability tools based on blockchain technology.

In order to satisfy the growing consumer demands for certified high-quality extra virgin olive oil, the COI (Certified Origins Italia) is now using the Oracle Blockchain platform to track the products of its members from the Italian bottling plant source to the port of arrival in the United States.

Technological developments also originate from many universities and research institutes, like the National Research Council, Canada's largest research organization supporting industrial innovation. They have filed a patent for a procedure that can extract nucleic acids from oily matrices for the DNA in high-quality oil to be obtained in a simple, fast and economical way.

Another notable innovation is a machine that uses nuclear magnetic resonance (NMR) spectroscopy in combination with multivariate statistical analysis in order to determine the real identity of olive oil and unmask fraud.



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With governments, professional organizations and companies all committed to investing in technology guaranteeing food safety for consumers, it is hoped that the public will reciprocate through the purchase of high-quality and authenticated products, many of which have invested in protective systems, such as traceability.

**Sources:**

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