

PROGRESS REPORT (January 2021)

WP3: Implementation of innovations in food authenticity

BACKGROUND

In order to substantially strengthen the integrity of the food supply system and thus facilitate international trade a multi-disciplinary approach is required that involves key actors and stakeholders within Europe and China and covers a wide range of scientific, social and industrial fields.

OBJECTIVES

This WP addresses the development, knowledge transfer and implementation of innovative research methods and processes for combating food fraud. The transfer and implementation of fraud detection methods for five product groups which are all very susceptible to fraud, i.e. wine, dairy products (infant formula), processed meat, organic fruit and vegetables, and spices are considered in this WP. The WP3 focuses also on the development, adaptation and implementation of the assessment of fraud vulnerability in a few selected food chains (wine and spice).

PROGRESS ACHIEVED SO FAR

Method development, validation and transfer activities: The methodologies, developed both in the EU and China from previous research and established practices, for the detection of food fraud, are being transferred and implemented both ways, from the EU to China, and from China to the EU. Authentication methods involve wine, infant formula, processed meats, organic produce, and spices. The method exchange and validation with industry partners have also been performed for some of the product groups. Reports on the performance comparison of exchanged methodology for wine (D3.1), dairy (D3.2), processed meat (D3.3), organic fruits (D3.4) and spices (D3.5) have also been completed. For Task 3.2, the supply chains for wine and ginger have been examined for critical points and food fraud vulnerability assessments have been adjusted to these two commodities. Many stakeholders in the EU and China have been identified and will receive an invitation to conduct a food fraud vulnerability self-assessment soon.

Noteworthy findings: The analytical outcomes of the spot check performed on the integrity of European wines on the Chinese market showed agreement of results between partners and high levels of proficiency for the chosen methods. Furthermore, the wine results also point to a variety of applied fraudulent practices among the tested samples – highlighting wine as a high risk to fraud product. Seven methods were established for the detection of adulterants in infant formula, together with the completion of the first draft of the Chinese GB standard for the *Determination of Lactalbumin in Infant Formula Foods and Milk Powder*. Methods for the detection of water retaining substances, carrageenan and glucomannan in meat, and for the screening of adulteration show good potential for the fight against meat fraud. Portable light spectroscopy applications (SCiO and Specim IQ instruments) can be used as screening tools for pepper provided that the spectral database is expanded to develop more robust models which incorporate more (internal and external) product variation.

SUCCESS STORY COMING SOON

Joint open access publications of the results for the different product groups are expected. China will also push forward the approval and uptake of the Chinese GB standard. The methodology of WP3 will be developed and implemented further to help reduce the prevalence of food fraud. Furthermore, in the second half of the project, partners will focus on fraud prevention methods, i.e. vulnerability assessments that will allow businesses to gauge their vulnerability to fraud. The vulnerability assessments will focus on specific spices and wine of importance for trade between the EU and China. The results also serve as a solid base for the development of adequate control plans.



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