

A SENSE OF 'SPICED': PEPPER AND NUTMEG AUTHENTICATION

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Nearly each and every processed food, including ready-to-eat products, comprises spices and herbs. These spices are mostly imported into the EU in dried or crude form from producing regions outside the EU. A considerable part of the imported spices and herbs are used in the industrial sector, especially in the processing of meat and production of convenience foods. However, they end up, ground and packaged, in retail and the catering sector as well. Many alerts from European Countries communicated through the Rapid Alert System for Food and Feed over the past years included spices and herbs. The main objective of the EU project Spiced is: 'Securing the spices and herbs commodity chain against deliberate, accidental or natural biological and chemical contamination'. One of the sub-objectives focuses on the reduction of adulterations to ensure the authenticity of spices and herbs by evaluation and improvement of non-targeted fingerprinting methods. The techniques involve spectrometry and spectroscopy methods with pepper and nutmeg being spices in the centre of the project. Black pepper may be processed to white pepper. Fermentation is the common approach in Indonesia and decortication in Vietnam. The different kind of processing results in unique fingerprints of volatile and non-volatile compounds. For both pepper and nutmeg addition of lower quality product own material is common, which should be declared if added on purpose. This group includes products such as peel, spent, light berries, spiral rejects, etc. Results from the spectroscopy and spectrometry analysis applied in the project shows that these products can be distinguished from the premium pepper and nutmeg products, also when present in mixtures. A survey shows the presence of the lower quality products in spices on the market.

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