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Keeping up with SPICED

The three-years research project SPICED aims at „Securing the spices and herbs commodity chains in Europe against deliberate, accidental or natural biological and chemical contamination”. The EU project started in July 2013 and includes partners and integrated stakeholders from government agencies, research institutions as well as relevant companies and associations.

Due to the high number of spices and herbs available, the consortium selected the matrices to focus on at the beginning of the SPICED project. The selection has been based on various criteria like i) the amount produced or consumed in Europe, ii) the potential to harbour natural, accidental or deliberate contaminations, and iii) the frequency of notifications related to such contaminations. The spices and herbs selected are for example pepper, paprika, nutmeg, allspice, vanilla, parsley, oregano and basil. Additionally, several biological hazards like *Bacillus* spp., *Salmonella* spp. and *Escherichia coli* and various chemical hazards are in the focus of the project.

Within all of the research objectives, systematic data acquisition and evaluation have been and will be performed for the selected spices and herbs and the biological and chemical hazards.

In one of the four research workpackages, named workpackage 2, characterization of biological and chemical hazards, predictive microbiology, evaluation of sampling strategies for detection of hazards and of spice and herb chains including their vulnerable points takes place. For example, an exemplary spice and herb production and processing chain has been adapted and developed. Additionally, the status quo of paprika and pepper production and trade has been evaluated.

Within workpackage 3, adaptation and optimization of sample preparations and detection methods as well as techniques for spiking dried spices and herbs with various microorganisms has transpired and will be further improved. As a result of various foodborne incidents from food of non-animal origin, spiking dried plant materials has become more important and the project data have improved and will continue to improve such techniques. Also included within workpackage 3 are several tenacity and stability studies on specific matrix-agent combinations.

In workpackage 4, standard operating procedures (SOPs) have been developed enabling a high throughput authenticity of spices and herbs especially with respect to chemical hazards. These SOPs shall



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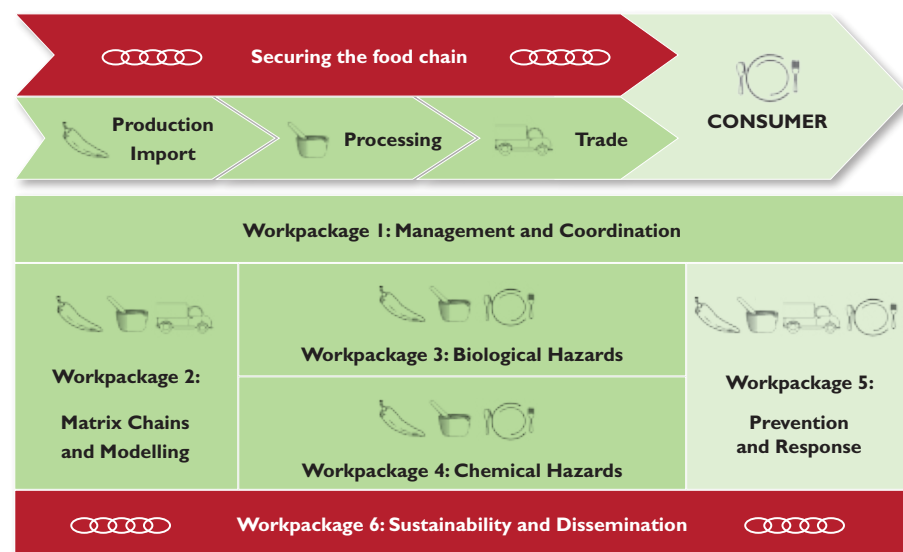
facilitate the exchange of analytical methods between laboratories and can increase awareness of existing methods for authenticity testing (e.g. by the industry and by the consumer).

Finally, in workpackage 5 the possibilities and limitations of available mechanisms within the spice and herb chains aim to improve prevention of and response to foodborne incidents. Guidelines for differentiations between natural and intentional incidents have also been established. Additionally, data on currently available decontamination methods for spices and herbs as well as for production facilities have been collected and their evaluation as well as different field and laboratory trials are in progress.

The European Commission, the coordinator, and the project partners have conducted all necessary management activities within the SPICED project (administrative, financial, and contractual issues) on a professional basis (workpackage 1).

Several dissemination activities (workpackage 6) help to communicate the project objectives as well as the first results at public events, governmental events, and scientific conferences to relevant stakeholders from public and private bodies including the civilian and military sectors.

In conclusion, the SPICED project achieved important successes and reports have been provided to the European Commission as anticipated. In general, the progress of the project is very satisfying, the collaboration strong, and the amount of achievement substantial.



The structure of the project SPICED spanning from production and import to the consumer within all workpackages.

First review meeting in Brussels

On February the 12th, 2015 the first review meeting took place in Brussels. The project was very well presented by the SPICED consortium. The remark “The best project presentation and preparation of documents in this EU unit for 20 years” was a high praise for the way in which the consortium manages the project.

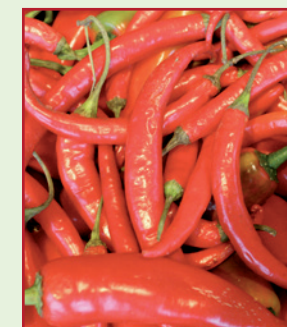
The Project Officer and Reviewer evaluated SPICED with appreciation and stated in the Review Report: “The SPICED project is a well defined, timely and well managed project with merits an outstandingly positive overall assessment. The progress beyond the state-of-the-art regarding the biological and chemical safety related with the spice supply chains in Europe is already clear at the end of this first project period. On a scientific level, the project will provide essential information regarding the food safety related with spices as a minor yet ubiquitous component in the food chain in Europe. The structured matrix chain model will allow to approach the complex, differentiated and long supply chains for spices relevant in the present food market. Technical impact can also be expected from the new and improved detection methods regarding biological and chemical hazards. Commercial impact will be related with the fact that the EU is a large importer and trader of spices, and with the information which will allow to refine regulations related with spice import into Europe. Industry stakeholders will benefit from the extended, improved knowledge on their products”. It was finally stated in the Review Report that “the project partners have given a convincing overview of the excellent progress obtained in the first reporting period of the SPICED project”.

This was possible because all parties of the project worked perfectly in advance. We hereby would like to express our full appreciation for the great performance and support to all project members.

FACT BOX

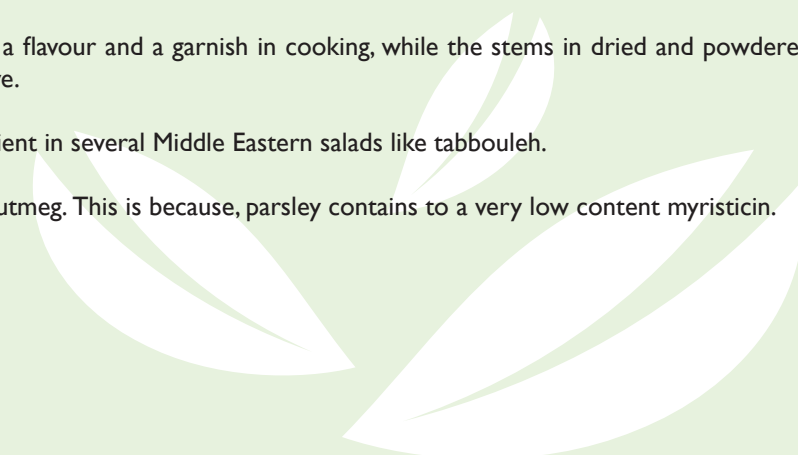
Do you know?

- With over 500 million consumers, the EU is an important market for spices and herbs.
- Imports and the demand for spices and herbs are continuously growing.
- At least 400 spices and herbs species are commercially available worldwide.
- The main spices produced in the EU are dried chillies and paprika.
 - The pungency (spicy heat) of chillies or other spicy foods is measured by the Scoville scale. Pimento holds between 100 and 900, the world hottest chilly Caroline Reaper up to 2,200,200 and pure capsaicin up to 16,000,000 Scoville heat units.
- Saffron, the most expensive spice, is derived from the flower of *Crocus sativus*.
 - To obtain 1 kg saffron styles and stigmas, the so called threads have to be collected and dried from 110,000 to 170,000 flowers.



May I introduce Parsley to you...

- Parsley of garden parsley is a species of *Petroselinum* in the family Apiaceae.
- The aromatic herb is indigenous to the Mediterranean region, but now cultivated worldwide.
- Parsley is one of the best known and extensively marketed cooking herbs.
- Although it is used mainly as a fresh herb, it is also widely available in dehydrated and frozen forms.
- The top part of the plant is used as a flavour and a garnish in cooking, while the stems in dried and powdered form serve as a food colour and a dye.
- Leaves are also used as major ingredient in several Middle Eastern salads like tabbouleh.
- Extracts of parsley smell similar to nutmeg. This is because, parsley contains to a very low content myristicin.



WHO IS WHO...

Mr Dirk Radermacher is the Secretary General of several European and German associations in the food industry as for example the German Spice Association (Fachverband der Gewürzindustrie e.V.) which is a full member association of the European Spice Association. Both associations are integrated stakeholders in the SPICED project.

The lawyer states: “The purchase of spices and herbs operates – in the interest of consumer protection – in a multi-layered, tight legal framework in Europe. This increasingly leads to supply shortages. International producers are often no longer willing to comply with the more stringent EU limits, especially when the goods comply with their national law or Codex Standards. It is therefore of particular importance that the international aspects are considered in the various objectives of the European SPICED project. To expand the awareness in the producing countries, how to prevent the introduction of biological and chemical contaminants, can make a significant contribution to a high and consistent product quality. Many European spice companies are running already today training programs in countries of origin to put Good Agricultural Practices in place and to avoid contamination of raw material.”

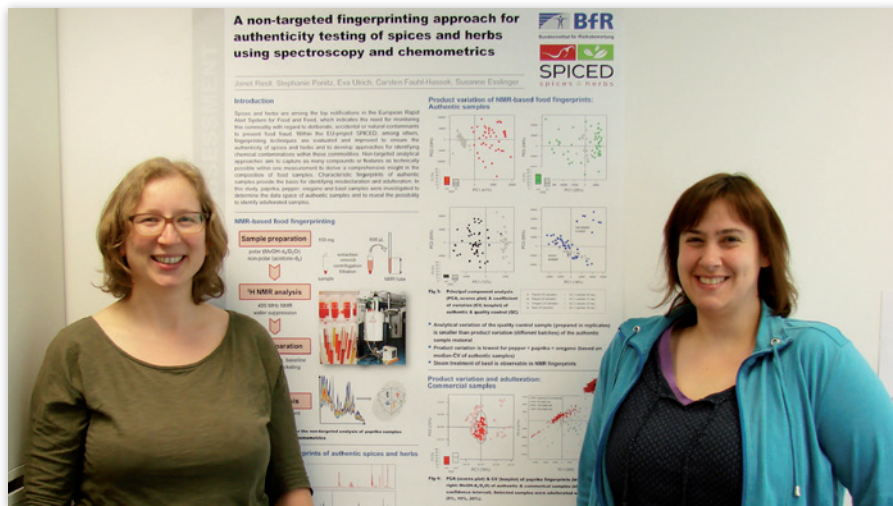


RA Dirk Radermacher,
Secretary General of the German Spice Association.

Congratulations!

For winning the 2nd poster award we congratulate Ms Janet Riedl, affiliated to the Federal Institute for Risk Assessment, at the II Food Integrity Conference. Janet won the prize for her poster entitled “A non-targeted fingerprinting approach for authenticity testing of spices and herbs using spectroscopy and chemometrics”.

The conference took place in Bilbao on the 26th and 27th March 2015 and aimed at “Assuring the integrity of the food chain: food authenticity research priorities and funding opportunities”.



Authors of the awarded poster: Janet Riedl and Susanne Esslinger

SUCCESSFUL 2nd WORKPACKAGE MEETING

The second Workpackage Meeting has taken place from the 22nd to 23rd of January 2015 in Berlin, Germany. Representatives from each partner organization joined the meeting.

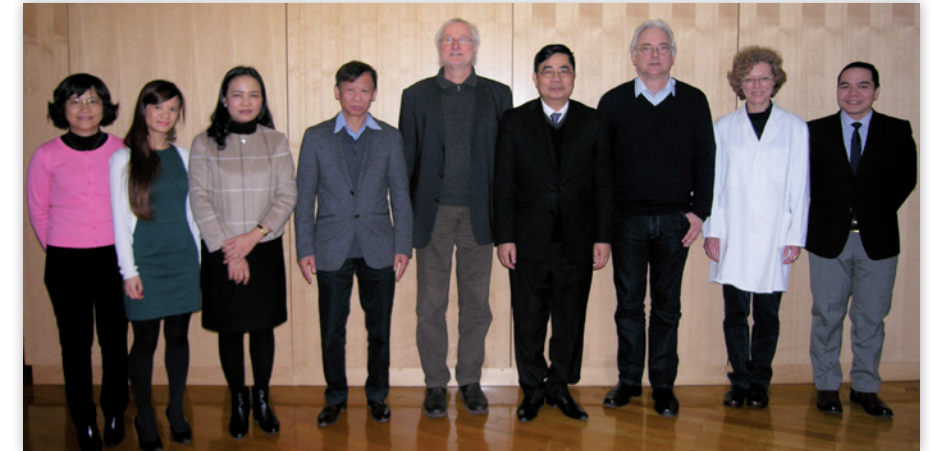
A “Workshop on Quantitative Microbiology” was organized by the two project partners Federal Institute for Risk Assessment and Wageningen University.



Visit of a delegation of Vietnam

A delegation of the Vietnamese Ministry of Agriculture and Rural Development headed by the Minister Dr. Duc Phat Cao visited the Federal Institute for Risk Assessment in Germany on the 20th of January 2015. The delegation had the opportunity to discuss different topics related to food safety with experts of the institute.

Spices and herbs, especially black pepper, are important goods of trade between Vietnam and Germany. Therefore, a special focus was set on the topic “Securing the spices and herbs commodity chains against contaminations”.



Minister Dr. Cao Duc Phat (4th person from right) and his Vietnamese delegation together with Prof. Bernd Appel, Head of the Department Biological Safety, Federal Institute for Risk Assessment (5th person from right), Ms Mai Dinh Thanh (Doctoral student in the SPICED project; 2nd person from left) and colleagues.

COMING UP EVENTS

- The 2nd Annual Meeting will be held from the 6th to 8th of July 2015 in Wageningen, the Netherlands.
- **SPICED goes EXPO:** on the 14th of October 2015 the SPICED project project will be presented at the EXPO Austria Pavillon in Milano, Italy

COMING UP ACTIVITIES

SPICED results will be presented for example at:

- 4th Intern. Conference and Exhibition on Food Processing & Technology, August 2015, London, United Kingdom
- 9th Intern. Conference on Predictive Modelling in Food (ICPMF9), September 2015, Rio de Janeiro, Brazil
- 10th Security Research Conference “Future Security”, September 2015, Berlin, Germany
- 5th MoniQA International Conference, September 2015, Porto, Portugal
- EFSA's 2nd Scientific Conference “Shaping the Future of Food Safety, Together”, October 2015, Milan, Italy
- 56th Food Hygiene Congress, October 2015, Garmisch-Partenkirchen, Germany

CONTACT

This newsletter has been produced by the SPICED Consortium. If you would like to comment on any of the content or unsubscribe to future editions of this newsletter please contact: spiced@bfr.bund.de



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