

1. PUBLISHABLE SUMMARY

Summary of the context and overall objectives of the project (For the final period, include the conclusions of the action)

Challenge

Food and feed safety is frequently compromised by the occurrence of chemical contaminants in food and feed. From the most important ones, mycotoxins, toxins of higher plants, pesticides residues, environmental contaminants, or processing contaminants can be given as examples.

The list of above mentioned toxic and bioactive compounds is already monitored today by using ever more sophisticated analytical methods for enhancing sensitivity and precision. However, purely analytical methods do not consider the biological effects of such compounds, and cannot fully answer the question of food safety. This can be achieved through the various types of in vitro or in vivo biological activity assessments. The toxicity of a compound on cellular health is complex. To date, there have been very few studies reported that have tried to determine the risk to human health following exposure to such cocktails of chemical contaminants. Determination of the combined toxicity of mixtures of contaminants is extremely complicated task, and new in vitro approaches have started to be addressed.

The main interests for substantial knowledge transfer are innovation in the field of analytical chemistry incorporating holistic analytical approach for analytical methods for targeted analysis of contaminants and health beneficial compounds, analytical approaches for non-targeted screening and metabolomic fingerprinting/profiling, and methods for identification of important metabolomic markers. Furthermore, interests in fit-for-purpose methods for assessment of currently unknown risks resulting from presence of mixtures of chemical contaminants in food and feed and novel approaches used in bioprospecting, a new tool for uncovering important natural resources for improving health, are included.

All project partners have complementary ranges of expertise and excellence in measurement science. These will be shared between each other, to build upon the existing strong competences of the each institution to ensure the ability to undertake comprehensive assessments of food and feed safety.

Project objectives

The principal objective of MultiCoop is transfer of competences, techniques and technologies among the three Universities, one from widening country (VSCHT) and two internationally-leading counterparts (QUB and BOKU), resulting in strengthening of overall scientific and innovation capacity in transnational scientific collaboration in food and feed safety research.

The MultiCoop project will achieve this by fulfilling the following specific objectives:

1. To increase an expertise of project partners in the field of food and feed safety assessment by organizing series of trainings and mobilities
2. To disseminate and communicate outcomes achieved by raising scientific capacity in the field of food and feed safety assessment through the wide range of activities
3. To disseminate outcomes achieved by raising scientific capacity in the field of food and feed safety assessment by writing the common scientific papers
4. To identify recommendations for research topics resulting in preparation of common projects proposals
5. To help in enhancing of researchers' profile as well as competences particularly of the institution from widening country

Work performed from the beginning of the project to the end of the period covered by the report and main results achieved so far (For the final period please include an overview of the results and their exploitation and dissemination)

Progress

1. Training activities

To strengthen the competences in scientific activities of the project partners, the training and exchange program was suggested at the beginning of the project and is continuously updated according to the research needs of each partner to reach a maximal gain in an expertise improvement. Numerous trainings have already been organized according to the plan. Acquirement of new knowledge and enhancement of attendees' competence(s) in the specific research area will lead to improving the competition of the trainees on the job market in both research and business areas, and will help the participants to realize their own research ideas in the future. Emphasis was given also to females' participation in the training activities, which was equal to male.

2. Dissemination and communication activities

To ensure the project results have the largest impact and sustainability on the target communities the MultiCoop Dissemination and Communication Strategy has been developed. This plan can be considered as a guideline for the efficient implementation of dissemination and communication activities, sustainability and contributes to the overall aims of the project. All project partners cooperated closely to achieve the plan and contributed significantly to dissemination and communication activities via presentations at a range of international and national events and publications of papers in peer-reviewed journals. In addition, first e-Newsletter on project activities has been produced, and project website www.multicoop.eu has been created. Project consortium is progressing well and all these activities enabled excellent visibility of the MultiCoop project even in its early stage.

3. Strengthening cooperation and scientific strategy

To strengthen cooperation amongst the project partners and formulate a scientific strategy for further common research activities, and in particular increase the research and innovation potential of the partner from widening country, all project partners have worked closely together to identify possible areas of future research based on the expertise within the consortium and by identifying gaps in research related to food and feed safety, quality and integrity. In addition, through their contacts, the consortium has investigated what networking opportunities exist to institute collaboration with industry, SMEs and national and international projects.

Progress beyond the state of the art, expected results until the end of the project and potential impacts (including the socio-economic impact and the wider societal implications of the project so far)

Expected results

The expertise and excellence of all project partners will be shared and will serve to strengthen the competences of each institution in the assessment of food and feed safety, quality and integrity, in particular the partner from widening country, VSCHT.

Continuous implementation of the training plan will strengthen the competences of all three project partners in the area of food and feed safety. The participation on the training will improve their expertise which could help in future development of their careers. An additional impact for the young

researchers is working in the international environment, and thus building social network in the research area which might also help to compete on the international job market in the future.

A wide range of dissemination and communication activities delivered by all project partners, through the website, publications, and presentations at scientific and other events, in order to inform both project participants and widest audience about the actions performed during the project lifetime and the outcomes achieved will lead to maximising the impact in terms of improving comprehensive assessment of food and feed safety.

Identification of potential areas of cooperation and preparation of project submissions will result in increased research and innovation capacity with a wide range of organizations, therefore enhancing the attractiveness and competitiveness of VSCHT and also other project partners for possible collaboration. By securing funding for research projects, VSCHT will expand, increasing its chances to collaborate on a greater scale. These successes will build the reputation of VSCHT easing integration into existing national and international structures.

Address (URL) of the project's public website

<http://www.multicoop.eu/>