



REDUCING FOOD BORNE DISEASES IN EUROPE



Food safety is essential for consumer trust and for the competitiveness of the European food industry, says PathogenCombat

After five years' work an integrated research project funded under the EU 6th Framework Programme will come to an end in April 2010. Its aim is to make our foods safer, strengthen consumer trust in food, and improve the competitiveness of the food industry. The name of the project – PathogenCombat – is a particularly apt description of the project's objective: to monitor and prevent emerging and future pathogens throughout the food chain.

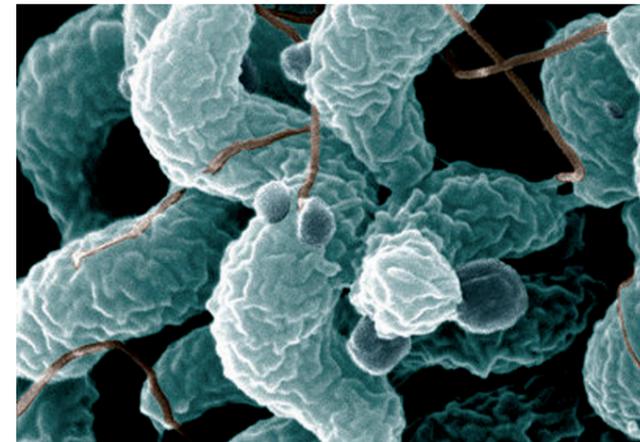
Everywhere in the world today, people are worrying

about swine flu. This shows what risks pathogens still hold today – in spite of all the progress made in our efforts to fight them. It is often forgotten, however, that every one of us can face similar risks every day. Even the healthiest of foods can cause health damages if preventive measures are not taken in the entire food chain from the supplier of raw material to the consumer. Although in Europe food production is generally very high-tech and has never been more stringently controlled, consumers still suffer from food-borne diseases. The significant investments in food safety by governments and the food industry do not seem to improve the situation. It is estimated that in the UK alone about 3.5 million people are affected by such diseases

every year and the number of cases Europe-wide will be much higher. Illness resulting from food-borne disease has become one of the most widespread public health problems in today's world.

There are numerous reasons for this: an apparent gap between technology and hygiene, lack of precise and rapid methods for monitoring and understanding the behaviour of pathogens in the food chain, a need for novel methods for breaking the transmission of pathogens along the food chain and a lack of efficient food safety management systems which also address the role of human behaviour in the food chain. Pathogens can get into a food at all levels of the food chain. So where are the greatest risks? Which pathogens pose

the biggest threat? How can they best be combated? What can industry do to prevent such risks and keep pathogens out of food? What do consumers know about the possible risks, where do they get their information, and how should this information be presented so that they can understand it? Finding the answers to these and numerous other questions was the object of PathogenCombat, an integrated research project in which the expertise and skills of researchers and industry members from 16 European states and Australia were united. Scientists from 24 reputed universities, institutes and other research facilities, 3 industrial partners and 17 small and medium-sized enterprises (SMEs) worked across national borders in multidisciplinary co-operation and partnership.



The unifying factor for all participants in the integrated PathogenCombat Project was their shared goal to make new findings, gain fundamental new insights, and develop methods for the food industry and decision-making bodies that would make it possible to effectively combat the prevalence of new and re-emerging food-borne pathogens.

In order to achieve this ambitious goal the researchers and their partners from industry had to solve a considerable number of tasks. Anyone who wants to combat food-borne pathogens effectively has to know more about them and be aware of which factors in the food chain control their viability, persistence and virulence. They have to develop or

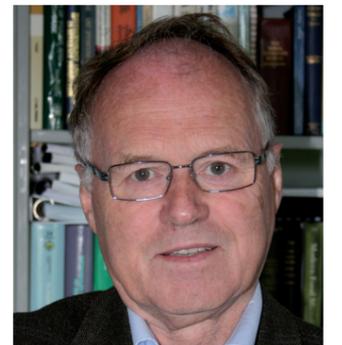
improve fast and highly specific tests for detecting pathogens and assessing not only the number of pathogens, but also their virulence in good time. One important task was to develop functional cell models which would enable the replacement of some of today's controversial animal experiments to understand how pathogens interact with humans and farm animals. Of particular interest to industry is the development of hygienic design and new processing technologies to prevent settling and spreading within the food chain.

The project's strong practical relevance and orientation is undoubtedly one of its outstanding merits. For example, the researchers have not only gained new insight into food-borne

pathogens and their prevention, detection and specific combat but have also put great effort into enabling this newly acquired knowledge to be implemented quickly within the food industry.

Now, after nearly five years of hard work, shortly before the end of the project the multitude of results is gradually being put together like a mosaic to form a complete picture, a harmonious whole. It is becoming increasingly clear that PathogenCombat contributes substantially towards improving effectiveness and uniformity in reducing the prevalence of food-borne pathogens in European food and creates an important foundation for scientifically based food safety management in Europe.

For interaction with PathogenCombat and more information please contact the Coordinator Mogens Jakobsen, moj@life.ku.dk or Project Manager Vicki Lei, vil@life.ku.dk. You can also visit www.pathogencombat.com



PathogenCombat
for safe food