

TRACE AND TRACEABILITY

The recent contamination of food products with the illegal colouring agent Sudan 1 serves to demonstrate once again how vital it is that food manufacturers are able to trace the origins of their ingredients. *Food Processing Intelligence* reports on the latest traceability initiative.

The need for adequate traceability procedures for tracing and tracking food and its ingredients has been highlighted by the latest food scare to hit the food industry. The recent discovery that over 450 types of food product were contaminated with Sudan 1, an illegal dye, has led to the withdrawal and recall of thousands of food items from supermarket shelves, at huge cost to the industry.

MAJOR TRACEABILITY PROJECT

It is perhaps topical, therefore, to report that one of the largest research projects on food traceability is being officially launched at the Central Science Laboratory (CSL) in York in the UK. The TRACE project has a total budget of €19m and aims to develop traceability methods and systems that will increase consumer confidence in the quality of the food supply. TRACE will cover a wide range of aspects of traceability and be multidisciplinary in nature. It will produce cost-effective methods for determining the origin of foods and integrate them into traceability systems.

CSL projects coordinator Paul Brereton says: 'Logistical supply chain management systems are being developed for tracing and tracking the food chain, but in isolation from work being done on scientific methods to characterise food. The integration of such methods into traceability systems will provide an infrastructure capable of verifying the origin of food.'

Fifty European participants and one from China are taking part in the five-year project. TRACE will develop generic as well as customised traceability systems capable of

verifying the source of foods. The systems will be demonstrated in the mineral water, honey, cereal and meat sectors, and a cost-benefit analysis will be performed to ensure that the systems are fit for purpose and appropriate for wider application.

Consumer scientists will assess consumer attitudes to traceability and authenticity through a European consumer behaviour study and through liaison with European consumer groups. A technology transfer programme will train workers in the new technology and systems.

The main milestones of TRACE will be:

- › The development of food origin mapping
- › The development of methods for the determination of species and variety
- › The development of effective food verification methods
- › Demonstrations of the effectiveness of traceability methods in specific food sectors
- › The instigation of training programmes in the techniques developed
- › An assessment of consumer attitudes to food traceability, authenticity and fraud
- › The production of guides for good traceability practice
- › The drafting and demonstration of standardised XML request-response schemes
- › A website dedicated to food authenticity and traceability

SIGNIFICANT IMPACT

The project will contribute to the following scientific areas:

- › The use of natural tracers, such as light and heavy isotopes and genetic markers, to relate food products to their source and identify varieties
- › Geo- and bio-climatic mapping to help fix the geographic origin of food quickly
- › The development of rapid, sensitive methods to identify species
- › The development of novel specifications for traceability and control from multivariate analytical data

TRACE will have the following long-term socio-economic impact:

- › Food quality and safety will be enhanced.
- › Rapid systems for identifying the origin and authenticity of foods will promote consumer confidence.
- › Unsatisfactory products will be withdrawn quickly from the market.
- › The extra value of declared origin and organic products will be protected.
- › The work of the control authorities will be made easier and more effective.
- › Training in the use of the new systems will promote high-quality employment.

Although primarily a research project, industry involvement is encouraged. 'We need to ensure that the work not only addresses the needs of the consumer but that the systems have a cost benefit to industry,' says Brereton. 'We are keen to have additional industry involvement in the project in addition to the significant number of SMEs already participating.' ■