



*Best wishes  
for the New Year!*



## New decisions for Genetically Modified products

### AGREEMENT ON 1% THRESHOLD FOR THE LABELLING OF FOODS CONTAINING GMOS.

In October this year, the Standing Committee on Foods of the European Commission voted with a qualified majority to adopt a 1% threshold for labelling of foods containing genetically modified material (Amendment to EC Regulation 1139/98). This decision was adopted in a context of increasing reluctance of the consumer to accept foods derived from GMOs. Reactions of European and American organisations at the WTO meeting in Seattle clearly demonstrated this, as well highlighting the economic and political arguments surrounding this issue. The globalisation of trade will make it even more difficult to comply with all the existing and future, national and international, legislation on genetically modified products.

Although the Standing Committee, which is made up of representatives of the EU Member States voted a 1% threshold, the food industry had hoped for a higher limit - from 2 to 5%. Consumer and environment

organisations on the other hand had asked for 0.1%. All the same, this limit is quite severe. It is already difficult to produce 100% GM-free cereals and guarantee total purity. For maize in particular, about 30% of American crops are genetically-modified.



The threshold is also applicable to both finished products and ingredients. So for example, if a product contains less than 1% soya lecithin, the latter must itself not contain more than 1% GMOs to avoid labelling.

The proposal will now be submitted to the European Parliament for approval and if there is no opposition within 30 days, the decision will be applicable 90 days from its publication in the European Commission Official Journal. The next stage will consist in defining experimental protocols in order to detect and quantify GMOs in a reliable and reproducible manner. A standard should be set by 2001.

Two additional categories should soon come under GM labelling requirements: food products consumed in work canteens, schools, hospitals, etc... and animal feed-stuffs. Eventually the whole food chain will be monitored.

Eurofins Scientific offers quantitative determination of GMOs in food using real-time PCR (Taqman) ●

**Bert Pöpping,**  
Company Molecular Biologist

*In this issue*

**GM FOOD LABELLING ●●● VITAMIN C IN NATURAL FRUIT JUICES ●●●  
A PTS FOR ISOTOPIC TECHNIQUES ●●● EDITING A FOOD AUTHENTICITY  
GUIDE ●●● MAFF PROPOSES AOAC DIETARY FIBRE FOR NUTRITIONAL  
LABELLING ●●● NEWS IN BRIEF ●●● MEETING ON APPLICATIONS OF NMR  
SPECTROSCOPY ●●● BUSINESS AWARD...**

# Vitamin C in natural fruit juices

## DETECTION OF INDUSTRIALLY-PRODUCED L-ASCORBIC ACID USING ISOTOPIC TECHNIQUES

The health virtues of vitamin C have been known for a long time. On a voyage to Newfoundland, 16<sup>th</sup> century French explorer Jacques Cartier marvelled at the powers of the sassafras plant, having seen his men cured of scurvy in six days after drinking a tea prepared for them by Native Americans. In the 18<sup>th</sup> century, a British Navy surgeon in charge of sailors' rations found that scurvy could be kept at bay with a daily portion of oranges and lemons. From then on all naval vessels carried containers of concentrated syrup of lemon or lime juice - explaining the commonly used nickname «limeys» for the British abroad.

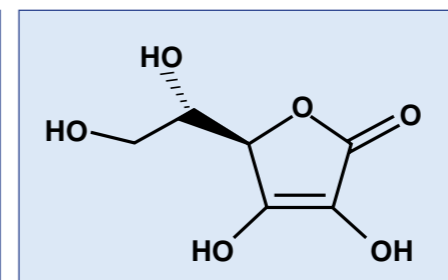
It was not until 1920 that the compound responsible for these miraculous cures was extracted from orange juice and named vitamin C. It was later identified as L-ascorbic acid. Since then numerous



medical studies have been published demonstrating the power of vitamin C in reducing the risk of cancer and heart attacks and even in alleviating the symptoms of the common cold.

Fruit juices, particularly orange, are naturally rich in vitamin C. L-ascorbic acid, however, is unstable and oxidises readily to L-dehydroascorbic acid. Poor or long term storage of fruit juices can result in considerable loss of the original vitamin C content. This poses a problem for fruit juice bottlers as information on vitamin content is required on the product label (Nutritional labelling for foodstuffs - 90/496/EEC). The AIJN Code of Practice stipulates a minimum L-ascorbic acid content of 200 mg/L for orange juices and German food law in particular imposes a minimum of 300 mg/L for juices claiming high vitamin C content. Commercial L-ascorbic acid is sometimes added, but this must be clearly specified on the product label.

Eurofins Scientific has recently optimised the isotopic analysis of L-ascorbic acid<sup>1</sup> extracted from citrus juices. Using the SNIP-IRMS<sup>2</sup> approach, the juice sample undergoes a series of extraction steps (including prior reduction of all L-dehydroascorbic acid) to eliminate unwanted juice components, sugars, amino acids, other organic acids. Pure L-ascorbic acid is obtained and its carbon-<sup>13</sup>C content,



expressed in  $\delta^{13}\text{C}$ , is measured by IRMS.

The method has been applied to both authentic orange juices and to commercially-available samples of L-ascorbic acid. Although the  $\delta^{13}\text{C}$  values measured on the latter show fairly wide variations, the majority of sources are C4 plants and significantly different from the  $\delta^{13}\text{C}$  measured on authentic juices. The use of the  $\delta^{13}\text{C}$  measurement of the whole juice as internal reference and the correlation between both values provides added assurance in detecting non-natural L-ascorbic acid.

This analytical procedure is now available at Eurofins Scientific to check the authenticity of vitamin C in fruit juices ●

Enquiries to :

*Eric Jamin (EricJamin@eurofins.com) and  
Günter Fuchs (GuenterFuchs@eurofins.com)*

1 Originally published by Pr. H.L. Schmidt  
2 SNIP-IRMS<sup>TM</sup> (a registered trade mark of Eurofins Scientific)  
Specific Natural Isotope Profile by Isotopic Ratio Mass

# FIT Proficiency Testing Scheme

## HELPING LABORATORIES TO PRODUCE CONSISTENTLY HIGH QUALITY DATA BY PROVIDING INDEPENDENT PROFICIENCY ASSESSMENT

From 1995 to 1998, Eurofins Scientific coordinated a European Thematic Network entitled FIT (Food analysis using Isotopic Techniques) which brought together European scientists working in areas related to isotopic techniques. As part of the FIT Network, a proficiency testing scheme was set up with the main aim of harmonising the use of isotopic analyses on existing applications. This PTS was the first in the field of stable isotope analysis of food and its implementation has enabled laboratories carrying out these techniques to gain accreditation according to EN 45001.

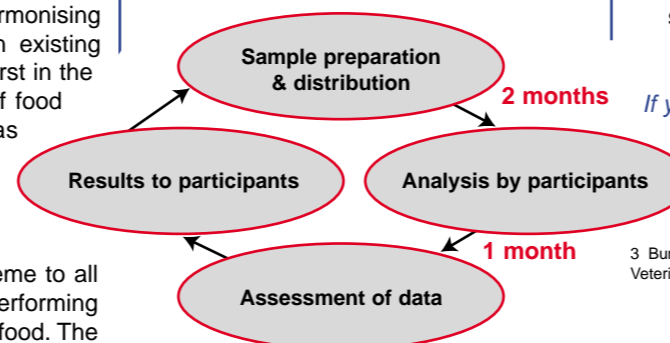
We are now expanding this scheme to all laboratories around the world performing stable isotope measurements on food. The

design of the scheme and subsequent data treatment are the responsibility of an expert committee composed of members from MAFF<sup>1</sup> (UK), JRC<sup>2</sup> Ispra (Italy), BgVV<sup>3</sup> (Germany) and Eurofins Scientific.

The FIT-PTS complies with the ISO/IUPAC/AOAC International Harmonised Protocol for Proficiency Testing of analytical laboratories ●

**A full schedule has been established for year 2000 including sweet and dry wines, fruit juices, honey and vanillin.**

*If you wish to participate, please contact  
Dr. Eric Jamin  
EricJamin@eurofins.com*



1 UK Ministry of Agriculture, Fisheries and Food  
2 Joint Research Centre of the European Commission  
3 Bundesinstitut für gesundheitlichen Verbraucherschutz und Veterinärmedizin

# Editing a Food Authenticity Guide

## A FIRST FOR EUROFINS SCIENTIFIC IN THE WORLD OF PRINTING AND PUBLISHING

It took several months of hard work to bring together the results of the three-year European project F.A.I.M. into a publishable «Food Authenticity Guide» (see inset). The

idea came from discussions between a group of European scientists working on applications of spectroscopic techniques to food analysis. The group successfully applied to the EU AIR Programme for funding and F.A.I.M. was born, with Eurofins Scientific as its coordinator.

Over 50 specialists from all over Europe and from different areas of the food industry contributed to the guide. The responsibility for each of the specific chapters in the book - cereals, coffee, dairy products, fruit-based products, honey, meat, fish, oils and fats, chemometrics - was in the hands of a «Commodity Group Leader». It was his/her job to gather all the information together into a readable format before sending it on to Eurofins Scientific for the final editing.

Specialists were called on to check the consistency of the text from one chapter to another, to iron out minor language discrepancies and provide the graphics. The illustrations were chosen and the cover designed by an advertising agency and submitted to the EU Commission for approval. After countless hours of careful

proof-reading the document was ready for the printers.

As the last of the 1000 guides rolled off the



production line, everyone involved breathed a huge sigh of relief. For Eurofins Scientific, it was the end of a successful adventure into the world of printing and publishing!

**Michèle Lees**



The authenticity of food products is a major concern to everyone involved in the food trade. Whilst strict standards and criteria for product definition exist, practical means for judging product authenticity are not always available. The increased sophistication in adulteration or misrepresentation practices has stretched the analyst's capabilities to the full in a constantly evolving situation. From 1994 to 1997, the FAIM Concerted Action, under the auspices of the AIR Programme of DG VI of the European Commission, brought together over 50 food scientists - from industry, research centres and universities, and from most EU Member States and associated countries - working in the area of food authenticity to draw up a review of authenticity issues and corresponding analytical methodologies in the areas of cereals, coffee, dairy products, fish, fruit-based products, honey, meat and oils and fats.

Written by specialists in each food product area, the Food Authenticity Guide will provide you with a detailed review on the latest analytical and legislative tools available in Europe.

**Eurofins Scientific France**  
**Food Authenticity-Issues and**  
**Methodologies - ISBN 2-9512051-0-4**  
**€ 73 - £ 47**

*For queries and/or orders, please contact*  
*C. Ménard - Tel : 33 (0)2 51 83 21 04*  
*Fax : 33 (0)2 51 83 21 10*  
*E-mail : [ChantalMenard@eurofins.com](mailto:ChantalMenard@eurofins.com)*

## Dietary fibre analysis

### MAFF PROPOSES AOAC DIETARY FIBRE METHOD FOR NUTRITIONAL LABELLING

European Commission Directive 90/496/EC on nutrition labelling, implemented in the UK by the Food Labelling Regulations 1996 (SI No. 1499), gives definitions for nutrition labelling purposes of all the major nutrients but not for dietary fibre. For this reason MAFF has historically issued guidance on the matter and stated that its preferred method of analysis was the Englyst technique.

However, other EC Members all use an AOAC International method of analysis. In practice both AOAC and Englyst techniques are accepted by the European Commission for labelling purposes and used for products sold in the UK. These methods measure different fractions of fibre and can therefore produce different results for individual products, which can be misleading to consumers and prevent valid comparisons between products, as the AOAC method tends to produce higher values.

In order to create harmony, MAFF has proposed that the UK adopts the AOAC International method as the UK's preferred method of analysis of dietary fibre for nutrition labelling purposes. This will render the Englyst method obsolete and as a consequence MAFF's Guidance Notes on Nutrition Labelling (May 1999) will need to be amended.

A transition period of 18 months is anticipated for adoption of any changes agreed as a result of this consultation, to allow product labels and nutrition information leaflets to be revised as a part of the usual redesign cycle.

Eurofins UK is well equipped to deal with the change as its Birkenhead Nutritional facility currently undertakes both AOAC and Englyst techniques. The laboratory hopes to gain UKAS accreditation for the AOAC version in the New Year.

**Jeremy Davies, Eurofins Scientific UK - [JeremyDavies@Eurofins.com](mailto:JeremyDavies@Eurofins.com)**

# News in brief...

## ...IMPROVEMENTS FOR BETTER CUSTOMER SERVICE



### The NJ division gains accreditation

Eurofins Scientific Inc., New Jersey, USA gained ISO 25 (equivalent to EN45001) accreditation by A2LA for nutrient, mineral and vitamin testing under the number 1313.01. A2LA has recently signed a Bilateral Mutual Recognition Agreement with EA <http://www.a2la.org/a2la/PR92199BilateralAgreement.htm> and the NJ Laboratory accreditation is therefore compatible with the European EN45001 accreditations.



### Eurofins Scientific Inc. open a GMO-testing facility in the US

To provide a better GMO testing service for its US customers, Eurofins Scientific Inc. is opening a PCR laboratory in its New Jersey division. This should enable a faster turn-around-time for US exporters to Europe and Japan and will provide GMO expertise specifically dedicated to the needs of the US market.



### The Californian division expand its facility by 2500 sq.ft.

The CA division (Alpha Laboratories) has experienced very significant growth this year and is therefore expanding its facility by 2500 sq.ft.



### Eurofins Scientific France renew and extend COFRAC accreditation (EN45001)

Further to the audit carried out at Eurofins Scientific France in September 1999, accreditation was renewed for fruit juices, wines, spirits and dietary supplements. Extensions were also granted for analyses of wines and dietary supplements. The EN45001 standard guarantees that official or harmonised methods are used for analyses and that the laboratory regularly participates in official ring tests. Equivalent partners to COFRAC abroad are DAR (Deutscher Akkreditierungsrat), UKAS (United Kingdom Accreditation Service), SAS (Swiss Accreditation Service).



### Group accreditation for Eurofins Scientific UK

The UK Group will be listed as an Accredited Group of laboratories under one UKAS registration - we are among the first in the UK to achieve this. We have also been successfully accredited as an Official Food Law Enforcement laboratory under the Additional Measures Directive and subject to agreement with the UK Ministry of Agriculture, MAFF, the UK Group will be named in the EU list of Official Laboratories.



### Analytical reports now available by e-mail in PDF format

Our LIMS system has been upgraded so that analytical reports can be sent via e-mail. We have chosen the Acrobat format (.PDF files) from Adobe because it is widely used on the internet and because it generates a printer-ready copy of our analytical report. For maximum security, e-mail reporting can be associated with Pretty Good Privacy (PGP) or S/Mime encryption.

## Forthcoming Scientific Meeting

### Applications of NMR Spectroscopy in Food and Pharmaceutical Analysis

Thomas Graham House, Cambridge, UK

Thursday 23rd March 2000

Eurofins Scientific is working with the Royal Society of Chemistry to produce this meeting targeted at those with an interest in the applications of NMR spectroscopy. It aims to highlight the uses and benefits of NMR in the solution of analytical problems within the food and pharmaceutical industries.

Professor Gerard Martin of Eurofins Scientific will make a presentation along with speakers from the University of Hertfordshire, Institute of Food Research, Unilever, Astra-Zeneca, and Merck, Sharp and Dohme. This group of distinguished speakers will highlight a number of applications within these industries including new developments, structural studies, authenticity, and coupled LC-NMR.

Places are limited to 30 and those interested in attending should by 16/1/00, email to [KevanWilliams@Eurofins.com](mailto:KevanWilliams@Eurofins.com)

**Kevan Williams**

**Eurofins Scientific UK**

## Business Award

Earlier this month the spotlight was on some of the showcase companies of France's Pays de la Loire Region. The Company Image Prize (in its Gallic original «Prix Image Entreprise») is organised every year by the Crédit Lyonnais, the daily Presse Océan and by communications agency Alphacom. This year was the 12<sup>th</sup> event and 5 companies, including Eurofins Scientific, were selected to represent their region on the basis of such criteria as innovation, quality, human resources and international development.

The competition culminated in a gala evening on December 6<sup>th</sup> at the Graslin Opera House in Nantes, where Eurofins Scientific, represented by Nantes Operations Manager, François Vigneau, received the Prix Image Entreprise for the Loire Atlantique.

**Hugues Vaussy,**  
**Eurofins Scientific France**  
**[HuguesVaussy@eurofins.com](mailto:HuguesVaussy@eurofins.com)**



© Published by Eurofins Scientific.  
All rights reserved. The greatest care has been taken to ensure accuracy but the publishers cannot accept any legal responsibility or liability for errors or omissions that may be made.

Eurofins Scientific France : Marcel DUMOULIN  
Tel. + 33 (0) 2 51 83 21 00 - Fax + 33 (0) 2 51 83 21 11  
E-mail: [MarcelDumoulin@eurofins.com](mailto:MarcelDumoulin@eurofins.com)

Eurofins Scientific Germany : Günter FUCHS  
Tel. + 49 3 328 305 054 - Fax + 49 3 328 305 162  
E-mail: [GuentherFuchs@eurofins.com](mailto:GuentherFuchs@eurofins.com)

Newsletter editorial team:  
M. Lees, M. Champion,  
M.L. Martin, G. Fuchs, M. Meyers  
Design: M. Fournier

Eurofins Scientific USA : Mike MEYERS  
Tel. + 1 732 329 2999 - Fax + 1 732 329 1031  
E-mail: [MMeyers@eurofins.com](mailto:MMeyers@eurofins.com)

Eurofins Scientific UK : Stewart HOLLINGTON  
Tel. + 44 181 946 8621 - Fax + 44 181 947 1206  
E-mail: [StewartHollington@eurofins.com](mailto:StewartHollington@eurofins.com)

Eurofins Scientific CS : Milan HAJEK  
Tel. + 420 2 719 11 344 - Fax + 420 2 719 11 344  
E-mail: [EurofinsCz@eurofins.com](mailto:EurofinsCz@eurofins.com)